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ORIGINAL ARTICLES.

THE NATURE AND TREATMENT OF CHOLERA INFANTUM.¹

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PROBABLY a more correct title for this paper would be the nature and treatment of summer diarrhoea; for cholera infantum is now regarded by some of the best authorities as differing in degree only from the milder diarrhoea of infancy. The importance of this class of diseases is well understood by physicians generally. It is estimated that in the hospitals of New York City there are treated each summer not less than 25,000 cases of diarrhoeal disease among children. Add to this those that are seen in private practice, and the number must be very large. It certainly would be safe to say that the average number of cases of summer diarrhoea in children coming under treatment annually in the United States is not less than a quarter of a million.

The causes usually enumerated by writers on these diseases are heat, atmospheric conditions, and changes in the food. Of these causes, great stress has been placed upon the first two. However, heat should affect young children more than older ones; but Holt states that, of 431 of his cases, only 12.8 per cent. were under six months, while 59.5 per cent. of the cases occurred between the ages of six months and two years. Holt says, "The explanation is obvious. Under six months the great majority of the children of the poorer classes receive breast milk either exclusively or principally, while from that time on they are accustomed to be fed from the table, or on articles totally unfitted for infantile digestion. It is a striking fact that Hope, of Liverpool, brings out in his statistics of 591 fatal cases of summer diarrhoea in children under two years of age, that only 28 had the breast exclusively; while Ballard states that, of 341 fatal cases occurring in Leicester, only 2 per cent. of the children had no food but the breast."²

Now there is no reason why heat and miasmatic influences should not affect those that feed at the breast as well as those that are brought up by artificial feeding, if the food has nothing to do with the production of the disease, as some few contend. That heat and atmospheric impurities have much to do with the causation of the diarrhoea I am ready to admit; but their chief evil effects are upon the food of the child. The demonstration of this now amounts almost or quite to a certainty. Three

years ago the writer discovered in poisonous cheese a ptomaine which produced nausea, vomiting, and diarrhoea. Later the same poison was found in ice-cream, and in milk. The poison has now been isolated by as many as five chemists, and its chemistry and the conditions under which it develops, as well as its action, are fairly well understood. Chemically, the poison is diazobenzol,¹ which may be made artificially by the action of nitrous acid gas at a low temperature upon the nitrate, butyrate, or other salt of anilin. It is decomposed when heated with water to near the boiling-point. It is developed in milk by the growth of a germ, which multiplies very rapidly when the conditions are favorable. These favorable conditions consist principally of exclusion of air, or the presence of a limited supply of air, and a comparatively warm temperature, the germ developing most rapidly at about 98° F. If milk be placed in cans, and tightly closed as soon as it is drawn from the animal, and then be kept warm, the conditions for the development of the poison are favorable.

A nice illustration of this was furnished by a case occurring at Long Branch, N. J., and reported by Drs. Newton and Wallace.² A number of persons at the hotels was poisoned by milk. Investigation showed that the cows were healthy, their food good, and their pasture and stables all in good sanitary condition. The milking was done at the usual hours of midnight and noon. The milk drawn at midnight was cooled by being left in cans surrounded by water until morning, when it was sent to the hotels. This milk never produced any unpleasant effects. The noon milk was placed in closed cans as soon as drawn, with all the animal heat still in it, and carted a distance of eight miles during the very hot days of August. This milk was poisonous, and from it Drs. Newton and Wallace separated tyrotoxinon.

Of course, uncleanness would increase the tendency of the milk to decompose, and it might afford the means of introducing the germ into the milk. Feeding the cow upon improper food, such as swill, and refuse from breweries, would also render putrefactive changes more likely to occur.

Comparatively large doses of this poison, from one to one and a half grains, administered to cats, cause violent retching and purging, with death within from one-half to two hours. With these large doses vomiting is impossible, on account of the great constriction of the throat; but the retch-

¹ Read before the Michigan State Medical Society, May 13, 1887.

² New York Medical Journal, January 29, 1887.

¹ Since the preliminary report on the chemistry of tyrotoxinon (THE MEDICAL NEWS, April 2, 1887), the writer has made an ultimate analysis of the salt obtained by the action of potassium hydrate on tyrotoxinon, and found it to be identical with the double hydrate of potassium and diazobenzol.

² THE MEDICAL NEWS, September 25, 1886.

ing is so violent that severe congestion of the lungs results. With smaller doses, about one-third of a grain, severe vomiting and purging are induced. The first stools are fecal; but the subsequent ones consist of clear serum, are rice-water like in appearance, and alkaline in reaction. The administration of small doses each day keeps up the vomiting and diarrhoea, leads to rapid emaciation and death from exhaustion. In other words, it establishes a cholera infantum condition. The similarity to cholera infantum does not cease with the symptoms induced and the death of the animal; but the post-mortem condition agrees exactly with that observed in children after death from cholera infantum. The mucous membrane of the stomach and small intestine is soft and blanched. We would expect, after so much vomiting and purging, to find this mucous membrane congested, or at least reddened; but that such is not the case I have demonstrated by repeated post-mortem examinations of cats, dogs, and guinea-pigs poisoned with tyrotoxin.

Ehrenhaus says of the pathological anatomy of cholera infantum, "Generally the mucous membrane of the alimentary canal is pale and free from blood."¹

Here we have the evidence for believing that this poison is an important factor in the causation of cholera infantum and similar diarrhoeas of children, the violence of the attack varying with the amount of the poison present. When we remember that these diseases are most prevalent among the poor classes of our large cities, where fresh milk is almost unknown, we can readily understand their frequency. By such people milk is often not obtained until it has begun to sour; then it is kept at a high temperature, and often in a most foul atmosphere, and we all know something of the readiness with which milk takes up bad odors. This milk is then eaten by the little ones, who are weakened by poverty and everything that poverty means; insufficient food generally, and that of the poorest quality; insufficient clothing, insufficient and vitiated air. With these facts before us, it is not surprising that in all our large cities thousands of children die annually from the summer diarrhoeas. Moreover, in our country places, how little attention is given to the food of children, we all know from actual observation. Cows stand and are milked in filthy barns and yards. The udders are generally, so far as my observation goes, not washed before the milking; the vessels for the milk are frequently found not as clean as they should be. Then there are the thousands of children that must draw their sustenance from bottles, the cleansing of which is in many cases not properly attended to. Crusts of decomposing milk form around the neck of the bottle, in the tube and nipple, and lead to the rapid decomposition of the entire contents of the bottle. I think that one of the most important advantages to be secured to breast-fed children arises from the lessened danger of infection of the milk with germs which may produce poisonous ptomaines.

I would not claim that decomposed milk is the

sole cause of the summer diarrhoeas of children; nor would I claim that tyrotoxin is the only poison that may be developed in milk. It is *only one of a large class of bodies which are produced* by putrefaction, and many of these are cathartic in action.

But will this knowledge concerning the development of poisons in milk and other foods aid us in the prevention and treatment of these diseases?

Preventive measures will consist for the most part in attention to diet, and especially to milk. I have drawn up the following rules concerning the care of milk:

1. The cows should be healthy, and the milk of any animal which seems indisposed should not be mixed with that from the perfectly healthy animals.
2. Cows must not be fed upon swill, or the refuse of breweries, or glucose factories, or any other fermented food.
3. Cows must not be allowed to drink stagnant water; but must have free access to pure, fresh water.
4. Cows must not be heated or worried before being milked.
5. The pasture must be free from noxious weeds, and the barn and yard must be kept clean.
6. The udders should be washed, if at all dirty, before the milking.
7. The milk must be at once thoroughly cooled. This is best done by placing the milk can in a tank of cold spring water or ice-water, the water being of the same depth as the milk in the can. It would be well if the water in the tank could be kept flowing; indeed, this will be necessary, unless ice-water is used. The tank should be thoroughly cleaned every day, to prevent bad odors. The can should remain uncovered during the cooling, and the milk should be gently stirred. The temperature should be reduced to 60° F. within an hour. The can should remain in the cold water until ready for delivery.
8. In summer, when ready for delivery, the top should be placed on the can and a cloth wet in cold water should be spread over the can, or refrigerator cans may be used. At no season should the milk be frozen; but no buyer should receive milk which has a temperature higher than 65° F.
9. After the milk has been received by the consumer, it should be kept in a perfectly clean place free from dust, at a temperature not exceeding 60° F. Milk should not be allowed to stand uncovered, even for a short time, in sleeping or living rooms. In many of the better houses in the country and villages, and occasionally in the cities, the drain from the refrigerator leads into a cesspool or kitchen-drain, this is highly dangerous; there should be no connection between the refrigerator and any receptacle of filth.
10. The only vessels in which milk should be kept are tin, glass, or porcelain. After using the vessel it should be scalded, and then, if possible, exposed to the air.

With the attention demanded by these rules given to milk, it will become more valuable as a food, and the development of poisons in it before its introduction into the body will certainly be prevented.

¹ Real-Encyclopædie der gesamten Heilkunde, B. ii. S. 436.

But in the prevention of summer diarrhoeas, attention to the food must not stop with its introduction into the body. The ferment which produces tyrotoxin is widely distributed, and it only awaits conditions suitable for its development. We do not know exactly what germ it is that produces this poison; but it is either the butyric acid ferment, or some ferment which is frequently developed along with the bacillus butyricus; because I have found that if some butyric acid ferment be prepared according to the method usually followed in making butyric acid, and milk be inoculated with this and allowed to stand at the temperature of the body for a few hours or at the ordinary temperature of the room for several days, the poison will appear. Moreover, as is well known, the bacillus butyricus grows best in the absence of air—we have already seen that the exclusion of air favors the development of tyrotoxin. We are aware of the fact that the butyric acid ferment frequently does develop in the stomach. Therefore, I think that the prevention of these diseases necessitates some attention to digestion. If the food lies in the stomach or intestine undigested, putrefactive changes will occur there.

During the hot months, children which are allowed to take food at will, often drink large quantities of milk simply for the purpose of quenching thirst. Especially is this true when the parent forgets that a child would sometimes relish a drink of good water. I feel that this overloading of the stomach with milk, caused by thirst, often is of no little detriment. It is hardly necessary to specify in regard to other ways in which attention should be given to the digestive organs of children. Those that partake of other foods with their milk should be allowed only the most wholesome articles, and these should be in perfect condition. Moreover, the depressing effects of extreme heat upon the nervous system, and its consequent injury to digestion, should always be borne in mind.

Now we come to the discussion of the curative treatment of these diseases. The first thing to do is to stop the administration of milk in any form. The ferment is present in the alimentary canal, and giving the best of milk would simply be supplying the germ with material for the manufacturing of the poison. This no-milk treatment is not by any means a new idea. It has been taught for some years by a few of the best authorities; but it has not been sufficiently insisted upon. Moreover, the reason for it has not been hitherto understood. It was believed in somewhat of a vague way, that the digestive organs lose their capability of digesting milk, and experience showed that the exclusion of milk led to improved results. But now that we know that a powerful poison is formed from the putrefaction of milk, the necessity of its exclusion must become apparent to all. I reported last year a case which is so applicable here that I must be pardoned for quoting it in full. If the child had been an animal upon which I wished to experiment, I could hardly have selected conditions more favorable.

"July 30, 1886, about 1 P.M., I was called to see the seven months' old babe of Mr. B. I found that the

child had been vomiting quite constantly for some three hours. It had also passed watery stools some six or seven times. The eyes were sunken, skin cold and clammy, and pulse rapid and small. I diagnosed cholera infantum. During the preceding night, the child had seemed as well as usual, and had taken nourishment freely from the mother's breast. Early in the morning it had been given a bottle of cow's milk, and soon thereafter the nausea and vomiting began. Later, as stated above, the child began to purge. The mother furnishing an insufficient supply of milk, it had been the habit to give the child cow's milk several times a day. I prohibited the further use of milk, both that from the mother and from the bottle, and substituted meat preparations and rice water as foods. I also prescribed pepsin, bismuth subnitrate, chalk mixture, and camphorated tincture of opium.

"The cow's milk which had been furnished the child was from an animal kept by one of the neighbors. On the evening of the same day that the child was taken sick, I obtained two quarts of the morning's milk of this animal. The milk had the appearance of very rich cream, being of a yellow tint throughout. This milk was allowed to stand through the night of the 30th in the ice-box of a refrigerator. On the morning of the 31st I began the analysis. After pouring the milk from the pitcher, there remained in the vessel about two ounces of a fluid the color of port wine. Microscopical examination of this fluid showed the presence of pus and blood corpuscles. The blood was also detected by obtaining the characteristic bands of oxyhæmoglobine with the spectroscope. The milk, which had already coagulated, was filtered. The strongly acid filtrate was rendered feebly alkaline with potassium hydrate, and then agitated with absolute ether. After separation, the ether was removed with a pipette, and allowed to evaporate spontaneously. This residue was dissolved in distilled water, and again agitated with ether. This ethereal solution left, after spontaneous evaporation, a residue which had a slightly brownish tint. I did not obtain the crystals of tyrotoxin, doubtless owing to this trace of impurity; but the residue had the odor and taste of tyrotoxin. This residue, dissolved in distilled water and given to a cat, produced retching and vomiting.

"That tyrotoxin was present in the milk taken by the child shortly before the beginning of illness there now could be no doubt. It is true that the milk was abnormal in other respects also, inasmuch as it contained pus and blood.

"After the withdrawal of all milk and the use of the medicinal agents mentioned above, the child began to improve, and by the afternoon of August 1st it seemed so well that it was allowed a bottle of good cow's milk (from another animal); but soon after taking this milk it again began to vomit and purge. Milk was again withheld, and the same medicinal treatment resorted to. This attack was slight, and after it the child continued to improve until the night of August 4th, when the grandmother, who 'knew more about raising babies than the doctor,' fed the child bountifully upon milk. Again the vomiting and purging began, and it was more than a week before all symptoms of gastro-intestinal irritation had disappeared. About the 15th of August milk was again allowed, at first in small quantity, and this seeming to have no harmful effect, more liberal quantities were given. The child has continued well since."¹

That my experience in this is not unique will be made evident by the following quotation from a

¹ Proceedings of the Michigan State Board of Health, October, 1886.

recent paper by Dr. L. Emmet Holt, physician to the New York Infant Asylum, who writes as follows:

"In children under two years of age, not fed at the breast, it is better to withhold milk entirely. This has been a subject of careful investigation during the past summer at the New York Infant Asylum, and both the resident physicians and myself have had this proved to our satisfaction by a large number of cases. Peptonized milk is very much less likely to disagree than either condensed milk or fresh cow's milk. But in many, even this caused an aggravation in the intestinal symptoms, particularly in severe and protracted cases. Again and again have I seen relapses brought on when milk was added to the diet in cases where the stools had been practically normal for two or three days."

The food used may consist of chicken and mutton broths, beef juice, and rice or barely water. With this list, no difficulty will be experienced in giving the child sufficient nourishment. In the medicinal treatment the first thing to do is to cleanse the alimentary tract as thoroughly as possible. In the first stages of the diseases there is no better agent for this purpose than castor oil. But if there have already been several serous discharges, copious enemata of water will be more suitable. These injections may contain either an astringent or a disinfectant, or both. For the latter, Holt recommends benzoate or salicylate of sodium, and for the former, nitrate of silver or tannic acid.

The next thing to be done is to arrest the growth of the germ. This germ has been found so far to develop only in acid media. Therefore, I think it wise to administer some antacid. Probably there is nothing better in this line than the old chalk mixture. In the preparation of the chalk mixture, the druggist should be requested to use glycerine, as many druggists still use syrup in this preparation. The presence of the sugar leads to rapid decomposition during hot weather. It has been said that the use of the antacid is irrational, because the discharges are often alkaline. Of course, the serous discharges are often alkaline, because they consist of blood serum and will be alkaline unless they have remained in the intestine long enough to ferment; but the reaction of such discharges does not prove that the contents of the stomach and small intestine are alkaline.

As to the use of germicides, much is yet doubtlessly to be learned. No doubt the chief effect of subnitrate of bismuth in this disease may be due to its effect upon the germ. Holt makes an excellent showing for the salicylate of sodium, but since he has been using this drug he has followed the no-milk diet and doubtlessly his lessened mortality has been due to the exclusion of milk quite as much as to the salicylate. He uses this drug in doses of from one to three grains every two hours.

I am now making some experiments with the object of ascertaining the effect of certain germicides on the development of this poison. The results I will give in some future paper, but I may state here what my success has been in a few experiments with mercuric chloride. The method of conducting the experiments was as follows: Four-ounce bottles

were filled with milk, milk and ferment, and milk and ferment with mercuric chloride, closed with glass stoppers and kept in an air-bath at the temperature of the body for six hours. Then the milk was tested for tyrotoxicon with the following results:

No. 1. Bottle containing pure milk only. Result, no poison.

No. 2. Bottle containing pure milk only. Result, no poison.

No. 3. Bottle containing milk and ferment. Result, the poison present.

No. 4. Bottle containing milk and ferment. Result, the poison present.

No. 5. Bottle containing milk, ferment, and one-hundredth grain mercuric chloride. Result, the poison present.

No. 6. Bottle containing milk, ferment, and one-fiftieth grain mercuric chloride. Result, the poison present.

NOTES ON SOME OBSCURE CASES OF POISONING BY LEAD CHROMATE, MANIFESTED CHIEFLY BY ENCEPHALOPATHY.

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I DESIRE to bring to the notice of the profession some cases of saturninism that recently came under my observation which are peculiarly interesting on account of the mode of entrance of the poison as well as of the somewhat unusual symptoms presented.

In a family of nine persons, all of whom had been in sound health up to January 1, 1887, and in whom no hereditary predisposition to affections of the nervous system was known to exist, six had, in a period of four months, eclampsia, which I am inclined to believe was in all of saturnine origin, or at least had a saturnine element in its causation. Four of this number succumbed to the eclampsia, two made good recoveries. The two cases that recovered and two of those that terminated fatally came under my immediate observation.

Beside these six cases, two other members of the same family presented symptoms which were of the nature of lead encephalopathy, although eclamptic attacks were absent. Of the two fatal cases under my care, in one there can be only the shadow of a doubt that the eclampsia was due to lead; in the other, the exclusion of other affections, the character of the symptoms, the presence of a blue line along the gums leave no room for question as to the nature of the case. The discovery that all had, for a continuous period from the above-named date, probably daily, ingested more or less lead, and in a highly toxic form, contributes greatly to the support of my assumption as to the probable nature of the other cases.

In presenting concise histories of these cases, I purposely refrain from enlarging upon points connected with the manifestations of the eclamptic attacks, and the treatment pursued not necessary to the establishing of a diagnosis, believing that a prolonged history, however interesting, would render the sketch too discursive, and contribute but little to

¹ New York Medical Journal, January 29, 1887.

its value in directing the attention of the profession to the possible greater frequency of saturnine encephalopathy in our midst than we are aware. It is likewise hoped that it will aid, at least in a slight way, toward bringing about some stringent action on the part of the authorities, making the use of lead chromate as an adulterant of food articles a misdemeanor punishable by the severest penalties.

CASE I.—Mary D., æt. five and one-quarter years, had never been ill until December last, when she contracted a mild attack of pertussis. There had been a slight whoop in her cough for two or three weeks before death, but the spasmodic element was said to have been so slight that the parents were in doubt whether the affection deserved the name of whooping-cough; the accessions were few in number and the cough of very moderate severity. She had been about from the first and partook of her meals with the family. For two or three days prior to the onset of the eclampsia, she had complained of anorexia and nausea and had frequently vomited. The vomited matter was said to have consisted of a greenish-yellow fluid. It was thought the fits of vomiting were not particularly provoked by cough. The symptoms were thought to indicate a digestive disorder by the parents, and medical aid was not sought. She was seized with a violent, general convulsion on January 8th, and died on the following morning, eight hours after the first seizure, having had in the neighborhood of thirty-five convulsions. On account of not having seen the case twenty-four hours prior to death, the physician who was called reported it to the coroner. No post-mortem examination was made.

CASE II.—Louisa D., æt. three and one-quarter years, had never been ill until a slight attack of pertussis appeared early in January. There had been a slight whoop in her cough since January 10th, but the cough was not thought by the parents sufficiently troublesome to require treatment. She was constantly about the house, and was permitted to eat of whatever food was upon the table. She complained of not feeling well on January 23d, and had several attacks of vomiting. She was about on the 24th, but vomited during the day, not particularly, however, after a paroxysm of cough. The vomited matter was said to consist of a greenish-yellow fluid, biliary in character, similar to that ejected by Case I. On the afternoon of January 24th, shortly subsequent to an exacerbation of cough, she complained of nausea and asked for a basin that she might vomit. During the act of vomiting convulsions appeared, which, I am informed, continued, with brief intervals of stupor, until death occurred within twelve hours after the first seizure. Her bowels were said to have been open on that day, and there was thought to have been neither constipation nor diarrhœa.

I did not attend either of the preceding cases, but believe the clinical histories as given to be entirely reliable. I have been informed, since my attention was directed to lead as the possible cause of these deaths, that both of the preceding cases complained occasionally, for a few days anterior to the attacks, of pains in the abdomen, but I could not discover if they were of a colicky nature.

CASE III.—Wm. D., æt. fifteen months, also had pertussis when convulsions appeared. The first spasm occurred on the day Case II. died, January 25th. The whoop had appeared in the cough ten days before. The attack of pertussis was of average severity, and the number of accessions moderate. His cough was loose and attended by profuse secretion, most of which was

swallowed when coughed into the pharynx. There was not a great deal of vomiting. He had been allowed for several months to partake of ordinary "table food," but he was not known to have eaten at that time anything particularly indigestible and his bowels had been open twice on the preceding day. The first convulsion lasted fifteen minutes and was very severe; it was succeeded by stupor in which I first saw him. The temperature was but slightly elevated; the head not very hot; anterior fontanelle moderately tense; gums nowhere sufficiently swollen to account for the spasms; the tongue was furred. There were a few moist râles in the chest but unaccompanied by any alteration in resonance. The urine was free from albumen. Five severe convulsions occurred on the following day, each being succeeded by insensibility lasting an hour or more. On the next day there was but one, which, however, was exceedingly severe and continued for nearly two hours, during which there were constant tonic and clonic spasms, general and local. On January 28th there was a mild one, after which no more occurred until February 3d, when he had a severe one, which terminated the eclamptic attacks, and he then made a rapid recovery from both eclampsia and pertussis.

On the day preceding the last convulsion, February 2d, the gums covering the lower canines seemed to be rather tense; they were freely incised at the time of the last convulsion. There was only a moderate amount of bronchial catarrh accompanying the pertussis and no inflammatory complications occurred. The convulsions did not occur during or immediately succeeding paroxysms of cough.

CASE IV.—Lewis D., æt. seven and a half years, had an eclamptic attack for the first time on March 18th. He had had an attack of pertussis in December, 1886, from which he made a good recovery. No complications were supposed to have occurred during it, and there had been no whoop in his cough for two months. He was supposed to have coughed rarely, if at all, for several weeks preceding the above date. His health had always been most excellent, and he was of a strong though nervous constitution. It was remarked that, for a day or two preceding the outbreak of the eclampsia, his breath had been offensive and his tongue furred. The bowels had been inclined toward constipation for several weeks before this time. On the evening of March 17th, after having fallen asleep on a chair, before retiring, on awaking his face wore a startled expression accompanied by some oscillation of the eyes. No complaint was made of headache or pains elsewhere, as far as could be remembered. I gleaned from an outsider that he had had a fall, while at play in the street, a day or so before. His parents were not aware of it, as he had uttered no complaint.

At noon on March 18th, without known premonitory symptoms, while playing with a sister, he suddenly fell to the floor in a general tonic convulsion, which rapidly gave place to a severe general clonic one, lasting upward of a half hour, leaving him in a stupor from which, in a few minutes, he emerged to be again seized with tonic and clonic spasms. He continued in this state, almost constantly convulsed, with short intervals of remission in which great restlessness, stupor, or coma was present until 4 o'clock on the following afternoon, when death ensued, about twenty-eight hours after the first seizure.

Edema of the lungs, bronchi, and trachea occurred in the preceding evening, and from this time on, at short intervals, frothy mucus, sometimes blood-streaked from the bitten tongue, appeared at the mouth and nose. The respirations changed from stertor to well-marked Cheyne-Stokes two hours before death, and so continued until dissolution. His temperature, which a few hours after the onset had been only slightly above normal, rose to 107° F. before death.

I did not see him until some hours after the first seizure, and could then get no further information as to the origin of the attacks than has been given. The physical examination revealed very little. The heart was normal; moist râles were present in the chest, due, I thought, to a beginning œdema; and there was some alteration in the resonance at the bases posteriorly, but it was difficult to determine satisfactorily to what this was due. An examination of the urine showed neither albumen nor sugar. He had had no symptoms indicating the onset of any of the acute diseases which are, in children, frequently accompanied by sympathetic convulsions.

The result of the necropsy, briefly stated, was as follows: Externally, on the forehead of the right side, in the upper part of the middle frontal region, there was a small ecchymosis, and the external periosteum beneath was the seat of a very small punctiform extravasation. There was no bruise in the internal periosteum. The brain weighed fifty-six ounces avoirdupois; was healthy and rather anæmic. There was a very small quantity of fluid contained in the lateral ventricles. The pericardium and heart were normal. An old adhesion existed in the left pleura, at the apex of the lung. The lungs were congested, œdematous, and, posteriorly, part of the lowest and middle lobes on the right, together with a small part of the lower lobe on the left, in the same situation, were apparently the seat of a bronchopneumonitis, which had been altogether "latent" during life. This condition was only evident posteriorly in small portions of the lobes. Dr. Rively, Demonstrator of Histology in the Jefferson Medical College, very kindly made sections of these portions for microscopic examination, and assured me they were the seat of a pneumonia. In the abdomen the organs were all apparently in a healthy condition. A thorough examination was not made here, it being the wish of the parents that as little as possible should be disturbed.

CASE V.—Mrs. V., æt. thirty-seven, mother of seven children. At the date her eclamptic attack occurred she was at the end of the eighth month of gestation. She had always been healthy, but had noticed during the past three or four pregnancies some œdema of both legs; not sufficient, however, to affect her general health, or interfere with locomotion. She had never had a convulsion, puerperal or otherwise, until April 24th of this year. For the space of a week or two previous to this date she had suffered with supraorbital neuralgia and slight pains and anæsthesia in the inferior extremities. Her bowels were inclined toward constipation, but she thought she had a free passage four times a week. Her urine was normal as to the quantity passed, but there was a small amount of albumen present, estimated by the method of Hoffman and Ultzmann to be one-sixth per cent. The quantity of her urine underwent no diminution prior or subsequent to the attack, and by the specific gravity alone it was thought the nitrogenous elements were being excreted in fair amounts. No examination for casts was made.

On the morning of April 24th, while occupied with her household duties, feeling quite well and entirely free from any cloudiness of mind, headache, disorders of vision, or vertiginous sensations, she was suddenly seized with a severe epileptiform convulsion, lasting ten minutes. After an hour's interval, during the greater part of which she lay in a semi-unconscious state, and had an attack of vomiting, the matter vomited containing a great deal of bile, a second convulsion occurred, which continued, with very slight intermissions, a half hour, followed by an attack of acute mania lasting three hours. The tongue was severely bitten during the convulsions. Very prompt treatment brought her about, and the convulsions were not repeated. As they were believed to be of puerperal

origin, and closely related to the albuminuria, she was put upon an absolutely milk diet, appropriate remedies were prescribed for her condition, and complete rest in the recumbent posture was enjoined.

CASE VI.—Amelia D., æt. twelve years, was well-made physically; her temperament was a combination of the lymphatic and nervous, and she was considered a bright and promising child. Her health had always been remarkably good prior to the beginning of the present year. Since then it was noticed she had fallen off in flesh and color, but this was attributed by her parents to her grief on account of the loss of her brother and sisters, as she made no complaints of feeling ill. For several days preceding the eclamptic attacks, she seemed listless and unable to exert herself; spoke of having headache and "feeling bad all over." There was complete anorexia and a very fetid breath. The day before the onset of the convulsions she suffered with nausea, accompanied by vomiting of a greenish fluid resembling bile, and a racking headache, located in the frontal and occipital regions.

I was called to see her for the first time on May 12th. Her temperature was 99° F., pulse 130; the tongue was heavily furred, particularly the posterior portion, while along the left lateral edge, on a line between the dorsum and under surface, the fusiform papillæ were prominent and of a deep black color. There was no cough, and the lungs and heart were normal. No abdominal tenderness was present, and no pain on pressure about the head, neck, or spine, and there was no retraction of the neck or spots on the skin. An examination of the urine revealed nothing. In the evening the headache had greatly increased in severity, great restlessness had developed, and two severe general convulsions occurred. These were apparently checked by the treatment begun, and she passed a moderately comfortable night. The headache, however, became again more severe toward morning and continued so through the day; the tongue remained coated and the breath offensive, notwithstanding she had been well purged on the preceding day. At five o'clock in the afternoon the convulsions recurred and continued from that time on, with slight intermissions, during which there was restlessness, stupor, or comâ, until four o'clock on the following afternoon, when death occurred—about forty-two hours after the first seizure. Œdema of the lungs, bronchi, and trachea developed some hours preceding the fatal issue, and well-marked Cheyne-Stokes breathing appeared. Her temperature during the convulsions was never found to rise to a greater height than 102½° F. The restlessness during a few hours preceding death was intense. The convulsions continued up to death, but were confined, toward the end, to the upper extremities and facial muscles.

A necropsy was made shortly after death, for the purpose of removing the viscera that a chemical examination might be made of them for the presence of lead. The body was well nourished and well developed for a girl of twelve years. There was a distinct blue line below the lower central and lateral incisors at their junction with the gum. The stomach and contents, part of the liver, the large and small bowel, the spleen, and a kidney were removed and placed in Dr. Leffmann's hands for chemical examination. The abdominal organs appeared to be in a healthy condition. The thorax, on account of the wishes of the parents, was undisturbed. Dr. Longstreth very kindly made an examination of the brain, and informed me that the fibrous tissue about the base, particularly in the neighborhood of the straight sinus, was thickened; the lateral and fifth ventricles were somewhat dilated and contained more than the average quantity of fluid. Microscopically, many of the arterioles showed irregular dilatations. In the cerebellum the corpus dentatum was

exceedingly ill-defined, and in small parts seemed thickened. The brain and meninges were congested, and there was an ante-mortem clot in the longitudinal sinus. The brain weighed fifty-three and three-quarters ounces, avoirdupois.

The sudden illness of this child in whom there had existed no previous disease, in so short a time after the eclamptic seizures in the others, and with some points of similarity in the symptoms preceding the onset of the eclamptic attack, caused me to look carefully for something apart from a mere neurotic element as the cause, underlying the supposed digestive disorder, which could give rise to the eclampsia. I felt a doubt if any of the convulsive seizures in these cases had been directly excited by the affections under which they were known to have been laboring. The symptoms presented by Case VII., who was now brought to me, assisted materially in throwing light upon all the preceding cases.

CASE VII.—Kate D., æt. thirteen and three-quarter years, was noticed to have failed in health and strength for several months past; her skin had, from a rosy tint, become of rather an earthy hue; her appetite had failed, and she suffered with frequent headache and slight pains in the legs, back, and abdomen, with occasional attacks of nausea and vomiting.

No particular notice was taken of her condition, her parents supposing that grief because of the loss of her playmates, together with the fact that she was approaching puberty, would account for her condition. About the time Case VI. was taken ill she grew rapidly worse and was brought to me for examination. She was then very anæmic, the conjunctivæ and gums were very pale. Her skin had not the hue of chlorosis, it was rather of an earthy-yellow color. Her heart was over-acting, with a markedly accentuated second sound at the apex. The temperature was 99° F. She suffered with constant severe headache, which she located in the temples and occiput; there was pain in the posterior part of the neck as well. There were no painful points. The back of the neck was tender on pressure, but no cutaneous hyperæsthesia or retraction of the neck existed. She had slight photophobia, and the pupils were irregular. Slight pains in the knees and ankles were also present, without swelling or tenderness on pressure. There were occasional colicky pains about the umbilicus, but of no severity. Her bowels, which previous to her falling off in health had been quite regular, now became constipated. She had irregularly, though about once daily, attacks of nausea, and vomited a good deal of bile. The night previous to the day I saw her she had been quite delirious and continued so, with lucid intervals, into the day. During this attack of mental wandering she complained of numbness in the upper and lower extremities, passed a large quantity of limpid urine, and vomited freely, the vomited matter being bilious in character. Lead poisoning being suspected, the gums were examined carefully for a blue line. A moderately well-marked one was noticed at the junction of the left lower canine and the adjoining first bicuspid and the gum. Her urine was free from albumen.

CASE VIII.—Edward D., æt. nine years, who up to this time had exhibited no symptoms of illness, now began to ail in much the same manner as Case VII. He was seized with severe headache and some pains in the knees and ankles. He had slight colicky pains in the belly associated with vomiting; the vomited matter consisted of a greenish-yellow fluid resembling that ejected by the others. His bowels were inclined toward constipation. He was anæmic and there was fine tremor

in both hands and twitching in the muscles about the mouth on protruding the tongue and in speaking. The tongue was thrust out tremulously and was quite heavily furred. There was a suspicion of a blue line along the gum in the neighborhood of one of the lower incisor teeth. His urine contained no albumen.

Seven of these cases exhibited several similar and notable symptoms in common, though in a varying degree. All the eclamptic cases, save Case III., had preceding symptoms referable to the stomach or bowels, and vomiting of a greenish fluid resembling bile¹ was present in seven out of the eight cases. In Case VI. the gastric symptoms were very marked, and it was not until Case VII. was taken ill that it was mentioned to me as having occurred in some of these cases, by the parents, who fancied the bilious vomiting and slight colicky pains present in Cases I. and II. to have been a simple gastric disorder unworthy of remark.

Convulsions occur in pertussis with a moderate degree of frequency, and from such a variety of causes that it would be difficult to assert that none of them were in operation in the first three cases of my series. They are, however, very rare in uncomplicated cases, unless the child is of very tender age, or the attack severe, with the spasmodic element marked, and the accessions frequent. In the latter case deficient aëration of the blood or, in highly sensitive children, an exaggeration of the nervous excitement which is an ordinary symptom of the disease, is the probable cause.² Convulsions in pertussis may, too, be due only indirectly to that disease.³

In early childhood a tendency to eclamptic attacks, which is more or less common, is aggravated by the state of nervous tension in which the system is maintained by the pertussis, so that often very slight gastric or intestinal irritation, or an attack of dentition, will provoke a seizure. But convulsions from such a cause are rarely followed by serious consequences, and are readily checked. A frequent cause of eclampsia in pertussis is the presence of an inflammatory affection of the lung, such as bronchitis of the smaller tubes, or broncho-pneumonia. In twelve cases of eclampsia in pertussis, observed by Meigs and Pepper,⁴ all of which occurred under the age of three years, six had severe bronchitis preceding the eclampsia, and one a pneumonia. Five of the twelve died; of these five, four were bronchitic cases.

I have previously remarked in the recital of the histories as to the mild character of the whooping-cough in the first three cases, none of them having had a lung complication, and Cases I. and II. were beyond the age at which any of Meigs' and Pepper's cases occurred. As all were of a nervous organization and presented symptoms of gastric disorder, the eclampsia might be attributed to the latter as a complication if the attacks had not been so severe, frequent, long-continued, and, in two, ending in

¹ Tanquerel laid stress on the great frequency of nausea and vomiting as accompaniments of colic seated about the epigastrium, due to lead. He also stated that vomiting most frequently exists at the commencement of lead colic, as soon as the pains are felt, and that the matter vomited has a greenish hue.

² Eustace Smith: *A Practical Treatise on Diseases in Children.*

³ *Ibid.*

⁴ *Diseases of Children.*

death. But as the digestive trouble was probably produced by the cakes containing the chromate of lead, of which all the cases, even the baby, ate freely, and as this salt acts as an irritant poison,¹ even in small quantities setting up gastric trouble, I may be permitted to say that lead probably was the source of the trouble, even if the eclampsia were not what is technically called saturnine—that is, due to the direct action of the metal on the nervous system. But, in Cases II. and III., colicky pains, nausea, and vomiting of a greenish-hued fluid, would rather indicate the systemic action of this substance.

The latent broncho-pneumonitis found *post-mortem* in Case IV., in a boy aged seven and a half, with a brain weighing fifty-six ounces, seemed at that time sufficient to account for the eclamptic attacks, though I thought scarcely sufficient to account for their continuance and mode of termination. Looking at the case now, in the light of later developments, it would seem reasonable to suppose that since the slight broncho-pneumonitis present was probably secondary to a lobular collapse, occurring at the period of his attack of pertussis in December last, it is unlikely that, having escaped eclampsia then, at a period most favorable to its development in one predisposed, he should have succumbed to it now. It is difficult to decide what influence the fall of a day or two before had upon the development of the eclampsia. As he made no complaint of his head and presented no symptoms of cerebral irritation, it is fair to conclude the trouble did not arise from it. The knowledge of the ingestion of lead, the colicky pains in the abdomen, with the fetid breath and constipation, point strongly to that mineral as the agent at work.

It is more difficult to form an idea as to the influence of lead in the production of the eclampsia in Case V., occurring as it did toward the end of pregnancy, with albuminous urine and oedema of the legs. There was, however, no diminution from the normal quantity of urine excreted preceding the onset of the eclampsia, and though no examinations were made to determine the quantity of urea excreted, it was thought from the specific gravity of that passed, that the kidneys were doing their work fairly well. The amount of albumen was at no time large. Lusk² calls attention to the fact that it is the renal insufficiency causing the retention in the blood of the excrementitious matters, and not the mere presence of albumen which gives rise to uræmia and convulsions. Although this woman had oedema of the legs and, probably, albuminuria in former pregnancies, no convulsions had occurred. She presented no symptoms of uræmia at the time of the attack. The headache and slight loss of sensation in the legs complained of, unaccompanied by such symptoms as drowsiness, vertigo, disorders of vision, were scarcely of this nature. The fact that she had been consuming more or less lead in no small quantities for several months, and that the convulsions occurred at a time when others were likewise affected, after

having been exposed to the same agent, favors the assumption that the eclampsia was of saturnine rather than renal origin.

When searching for evidences of lead poisoning in the others, her gums were examined, and it was noticed that the upper part of the gum near the teeth in the neighborhood of the lower central and lateral incisors, was very distinctly blue. The removal of the cause in the cases surviving, and proper remedies directed against the lead in the system, soon produced a marked improvement in all.

Case VII.'s headache, colicky pains in the abdomen, anorexia, nausea, vomiting, and pains in the legs, all disappeared, and she is rapidly regaining her strength and color. She complains yet of a persistent pain in the right hip-joint, which does not cause any serious annoyance.

Case VIII. made a still more rapid improvement, not having been so much affected as his sister.

In searching for the origin of the trouble, it was learned that the family had occupied the dwelling they were then in for the past five years, and that no case of illness of any sort had occurred during that time, until about the beginning of the present year. I made a careful examination of the house, its contents, and the plumbing, but was unable to discover anything to cause suspicion, save, perhaps, an iron kettle, glazed on its interior, which had been in use for several months. Knowing that litharge was formerly used in making glazed earthenware and iron vessels, and that accidental cases of poisoning have occurred from the use of such utensils in cooking acid fruits and vegetables,¹ I had some of the glaze removed for a chemical examination. Scarcely supposing the lead could have come from this, as they had eaten very few acid fruits and vegetables during the winter and spring, I thought it probably came from a source external to the house.

Learning from the family that they had made a change in their baker a short time preceding the date their illness began, and learning, accidentally, that the baker, who had been in the neighborhood scarcely a year, had himself lost a number of his family in convulsions a year or so previous, I visited him for the purpose of making inquiries. I found his wife suffering with pains in her ankles and stomach, which had been worrying her intermittently for some months, and which she attributed to overwork. A brief examination disclosed the fact that she was intensely poisoned by lead. Her bowels were constipated, she had dry colic, a metallic taste in her mouth, loss of appetite, occasional attacks of nausea and vomiting, headache, and arthritic pains in the limbs, her tongue was coated, the breath fetid, and the gums in the upper and lower jaws were of a deep blue color.

I at once informed the baker of her trouble. He assured me he was unable to enlighten me as to its source, as he had no lead about his establishment. He denied using any artificial coloring agent in his trade. A visit to his cellar, however, into which I had him take me, disproved his assertion, for after making an inspection of his plumbing and the bake-

¹ Taylor on Poisons.

² Science and Art of Midwifery.

¹ Woodman and Tidy: Forensic Medicine and Toxicology.

oven, and procuring some samples of his flour and chemicals used for raising dough, he permitted me, after some demurring, to see a pitcher, which contained a quantity of yellowish substance, partly in solution, which I recognized as chrome yellow.

Further inquiry elicited from him the information that he used it solely to give color to his tea- and cinnamon-buns, employing about a tablespoonful of the powder and water to a forty pound mass of dough. He assured me he was unaware of its poisonous nature, and did not introduce it into his more expensive cakes, using eggs for them. I took a sample of this substance to Dr. Leffmann for examination; he at once pronounced it chromate of lead.

I further learned from the baker that he had lost, between May, 1884, and January, 1886, a wife and six children in convulsions, and that lead poisoning was suspected to be the cause of death in most of the cases. During this time a journeyman baker in his employ also was seized with lead colic, and was forced to leave him.

On making inquiry of one of the physicians who had attended this family at the time some of the deaths took place, I learned that these cases had caused a great deal of talk when they occurred, as the circumstances surrounding the deaths were so peculiar. They seemed to be all cases of saturnine eclampsia, but the source whence the lead was derived had not been discovered. It now seems most likely that it was the chrome yellow used by the baker to color his cakes.

I ascertained from Mr. D. that his family, since dealing with this baker, had been in the habit of purchasing daily from twelve to eighteen of the tea and cinnamon-buns from the baker and, usually, double this quantity on Sunday. He stated that they were greatly liked on account of their yellow color and good taste by all in the house but himself, who had no liking for sweet cakes, and that it was a rare thing for any of them, scarcely excepting the baby, to partake of anything at breakfast save these buns, and coffee or milk.

The use of chrome yellow as a coloring agent by bakers is not recent. In the *Medical Times and Gazette* of December 24, 1859, p. 635, are recounted six cases of acute poisoning caused by eating Bath buns, colored by this agent. Some of the buns which had not been consumed were subjected to analysis, and it was found that each contained seven grains of chromate of lead. Marshall, of the University of Pennsylvania, has recently¹ published the result of some work he has done in this direction. He found lead in the buns and pound-cake of four out of twenty-six shops. Dr. Leffmann made for me analyses of some bright-yellow sponge-cake and tea-buns obtained from the baker I found using the chrome yellow. The result is subjoined. He suggests that while the naphthol yellow, which he is inclined to believe is the agent used to impart color to the sponge, may in itself be harmless, it is possible that it may, from its chemical nature, pro-

mote somewhat the absorption of the lead chromate when these agents come together in the stomach.

The only cases hitherto on record of death by chrome yellow are those¹ reported by Dr. von Linstow, of Ratzeburg, who described the cases of two children under four years of age. They ate some substances made to look like bees, consisting of gum tragacanth, colored with this agent. They were seized, in two or three hours, with violent vomiting, great thirst, restlessness, and prostration. The matter at first vomited had a yellowish color. There was no diarrhoea, or complaint of pain. On the following day the younger had slight purging, with convulsions, and died on the second day. The other was listless, almost unconscious, with irregular pulse, great thirst, and dysphagia. He died on the fifth day.

It is stated by Wormley² that the amount of chrome yellow taken by each of these children did not exceed the one-fifth of a grain. That seems barely possible, as it could scarcely, in that quantity, cause death on account of its insolubility.

Encephalopathy is the rarest of all diseases caused by lead. Tanquerel met with but seventy cases. It is usually found only in those profoundly saturated with the poison and rarely occurs as a primary affection, commonly being preceded by colic, arthralgia, or paralysis. Tanquerel has found the most important of the prodromes to be violent headache, either general or partial, and often limited to the forehead and accompanied by vertigo. He found, of all trades producing it, that it was least rare among manufacturers of white lead, and after them least rare in painters of buildings. I can find records of only a few cases in the past three decades, after a prolonged search in the library of the College of Physicians, and records of cases of the eclamptic form of encephalopathy seem especially rare, though Tanquerel pronounced them the most frequent cerebral accidents caused by lead.

Dr. Leffmann reports the result of his analyses as follows: "The examination of the bun shows lead in a small amount, approximately two grains of lead chromate to each bun; but as the material was irregularly distributed, and the portion most distinctly colored was selected for analysis, this estimate is doubtless too high.

"The sponge cake is colored with an organic color soluble in alcohol. This is possibly naphthol yellow, but it has not been definitely identified.

"The samples of urine from Mrs. D. and Katie D. respectively, and various parts of the viscera, give slight precipitates, indicating the presence of some metal of the lead group, but the quantity is too minute to permit of identification, and it cannot, therefore, be affirmed that lead was found in any of these.

"The glaze, very finely powdered, and treated with strong boiling hydrochloric acid, yields a solution which gives with hydrogen sulphide a precipitate which indicates the presence of tin, but this has not yet been fully examined."

¹ MEDICAL NEWS, January 1, 1887.

¹ Taylor on Poisons.

² Micro-Chemistry of Poisons, 2d ed., p. 365.

NEPHROLITHOTOMY.

BY D. HAYES AGNEW, M.D.,

PROF. OF SURGERY IN THE UNIVERSITY OF PENNSYLVANIA.

W. S., æt. thirty-seven years, married, a grocer by occupation, and living in Western Pennsylvania, consulted me in the autumn of 1885 on account of a dull pain, deeply seated in the left lumbar region, and radiating in the direction of the groin, and across the front of the abdomen. The pain was always worse at night, and was accompanied by considerable vesical irritation, causing frequent urination, with occasional rigors. On examining the left lumbar region, there could be felt, as well as seen by the eye, a well-defined swelling. The urine, about normal in quantity, contained considerable mucus, phosphates, and albumen, the latter not, perhaps, greater in quantity than might be accounted for by the pus corpuscles present.

The diagnosis lay between renal calculus, perinephritic abscess, or cystic disease. Inasmuch as there had been no renal elements discovered in the urine, no colic at any time present, and no concretions passed, together with the fact that a tumor existed in the left lumbar region, I was induced to conclude that the disease was either cystic or perinephritic. The patient did not remain in the city, and consequently passed out of my observation without having an opportunity of further investigating his case.

In February, 1887, I was again called to see Mr. S. with Professor Pepper, under whose care he was at that time. His lumbar pain had never been relieved; on the contrary, had increased in severity; the urine still contained pus corpuscles, blood corpuscles, and a small amount of albumen. The preceding November he thought he had, after an attack of colic, passed a small stone, and the swelling, first observed in the loin, was no longer detectable. His suffering had now become so constant and severe that he was no longer able to follow his business. It was the opinion of Dr. Pepper, as well as myself, that the only cause sufficient to account for his symptoms was the presence of nephritic calculus, and in view of this conclusion, an exploratory operation was proposed, and readily assented to by the patient. With this object Mr. S. was kindly turned over to my professional care by Dr. Pepper.

Operation.—On the 7th of March, after a brief preliminary treatment, the patient was placed on the operating-table, after etherization, and laid on the right side, over a pillow rolled into a firm cylinder. An incision about four inches in length was made on the left side, beginning at the edge of the erector spinæ muscles, and carried obliquely forward and downward half an inch below and parallel with the last rib. The different strata of tissues were divided down to the lumbar aponeuroses. The latter being opened, the renal fat immediately projected into the wound. On breaking up the mass of adipose matter a quantity of purulent matter escaped, which had evidently been confined for some time around the kidney. After the latter had been sufficiently denuded of its fatty covering, a careful exploration of the organ was made by the finger, in search of the suspected stone, and at first without success, but on

repeating the examination a hard point was discovered, which, on scratching away the renal tissue with the finger-nail, proved to be a calculus. As the process of denudation, partly by the nail, and partly by the point of a steel director, progressed, it was found that the stone was one of much greater magnitude than at first anticipated, filling up the entire pelvis of the kidney, and sending its prolongations into the infundibula. After following the different branches of the concretion separately, the calculus was lifted out of its bed by a scoop, and carried sufficiently near the surface of the wound to admit of being seized by a pair of fenestrated forceps and removed. A careful digital examination was now made, to ascertain if any fragments had been left behind. A single piece was discovered and removed.

During the enucleation the bleeding was quite free, but soon subsided on the application, for a short time, of a pledget of antiseptic lint. A drainage-tube was next introduced through the wound into the pelvis of the kidney, and the cavity well washed out with a solution of bichloride of mercury (1 to 2000). The wound was closed by two rows of sutures, the deep ones (catgut) bringing together the aponeurosis and muscles, and the superficial ones (silver) approximating the skin and subcutaneous tissue. The wound was next dusted with iodoform, covered with a strip of protective, over which were placed deep and superficial compresses of carbollated gauze with mackintosh, reinforced with a layer of salicylized cotton, and the whole secured in place with an antiseptic roller. The whole operation was done antiseptically.

The patient was placed in bed somewhat, but not seriously, shocked by the operation, but in a few hours reacted satisfactorily. From this time forward he had no symptoms giving rise to any anxiety whatever. His temperature ranged from 98½° to 99°, and only on two occasions reaching over 100°. Urine passed freely through the drainage tube, requiring the dressing to be renewed twice in the twenty-four hours. The lowest quantity passed by the natural routes was twenty-five ounces, the largest fifty-four ounces in twenty-four hours. On two occasions a small fragment of stone escaped, once through the drainage tube and once through the opening after the tube was taken away. The drainage tube was not



Calculus, natural size.

disturbed for two weeks, after which time it was removed by instalments, the last portion being taken

away at the end of the third week, at which time the patient was sitting up, and on April 3d was discharged from the hospital. A narrow tract in the loin was still open, but scarcely any urine escaping.

The stone (see figure) weighed 275 grains, and was composed chiefly of phosphate of lime and uric acid.

MEDICAL PROGRESS.

A CASE OF SUCCESSFUL EXTIRPATION OF A LARYNGEAL CANCROID BY INTRALARYNGEAL PROCEDURE.—As this case is referred to in our editorial comments upon the case of the Crown Prince of Prussia, we transcribe the reference in the May number of the *Internationales Centralblatt für Laryngologie, Rhinologie, und verwandte Wissenschaften*, to FRÄNKEL's article in *Langenbeck's Archiv*, Bd. xxxiv. H. 2, 1886.

On September 17, 1881, Dr. Fränkel removed, with the snare, a tumor larger than a French bean from the right vocal band of J. W., of Rostock. The tumor was without doubt a cancrroid, as demonstrated by the author in several microscopic sections. Recurrence ensued despite the apparently thorough removal. In September, 1882, a similar growth the size of a pea, and in May, 1883, another the size of a French bean, were removed from the same spot and in the same manner. In 1884, a lymphatic tumor the size of a hen's egg had developed on the right side of the neck. In February, 1884, the larynx was again cleared, and extirpated portions were examined by Virchow and found to be cancrroid. On April 1st, Professor Magdeburg, of Rostock, successfully extirpated the diseased glands from the neck despite extensive adhesions with the jugular vein, and found that the extirpated glands were undoubtedly carcinomatous. In June, 1884, intralaryngeal interference became requisite for the fifth time, in consequence of recurrence, and the tumor was torn out with the snare in two sittings.

This time the operator omitted the subsequent electro-cauterization which had followed the previous extirpations. No recurrence ensued, and since the summer of 1884 the seventy-five year old patient has been completely well. His voice has been thoroughly preserved, and he can be regarded as cured. The author is of opinion that this case justifies the institution of intralaryngeal measures, even in cases of laryngeal cancrroid, although such procedure has its limits. Thus he recently transferred a patient to Dr. von Bergmann for unilateral extirpation of the larynx, because the partially subglottic seat of the cancrroid at the anterior commissure of the vocal bands indicated danger of extension to the other side of the larynx. This patient has thus far remained cured, and speaks with an audible voice.

Fränkel recommends the following rules in the management of laryngeal carcinoma: In all instances justified by the location of the tumor, a tolerably large piece should be removed with snare or forceps under the topical influence of cocaine. Should microscopic examination show that it is carcinoma, and should there be no immediate danger that the tumor is extending to the other side of the larynx, then the indication exists to attempt to tear the growth out with snare or with forceps under local anæsthesia. The patient is to be kept under frequent laryngoscopic observation, and

every recurrent formation is to be removed as soon as practicable by the same methods. If the desired end cannot be accomplished by intralaryngeal procedures, then partial resection of the larynx becomes justifiable. Even should both sides of the larynx be implicated, it becomes a question for consideration whether extirpation is not possible by intralaryngeal procedure before the question of total extirpation is to be entertained.

SÄNGER'S DESCRIPTION OF THE OBJECT AND RESULT OF HIS STUDIES IN CÆSAREAN SECTION.—In the *American Journal of Obstetrics* for June, 1887, SÄNGER, of Leipzig, describes his researches and their results as follows:

"To study the behavior of the uterine wound in the Cæsarean operation: this formed the basis for the correct principles governing its surgical treatment by a suture adapted to the physiological peculiarities of the uterus. Briefly defined, it (the suture) consists in the exact closure of the entire uterine wound by a two-rowed suture, the lower tier of which is to comprise the whole uterine wall without passing free through the cavity of the organ; while the superficial tier, placed between the deeper stitches, merely unites the surfaces of the serous edges; both tiers of sutures to be so close and so numerous as to insure an absolutely perfect reunion of the uterine wound, and its covering with peritoneum. The suture material to consist of a substance the knots of which do not loosen, and which will not dissolve (silk, silver, or chrome catgut). Since the uterus does not present a movable subserous layer of tissue, the undermining of the peritoneum and resection of the muscularis are intended for cases in which the parallel union of the wound and the lymphatic plane suture could be effected only with difficulty. The uterus after the suture must be like an uninjured organ; the uterine wound must heal by first intention without adhering to the abdominal wall."

A FORMULA FOR THE ADMINISTRATION OF CREASOTE AND IODOFORM FOR PHTHISIS.—HUCHARD gives the following prescription in *Les Nouveaux Remèdes*, of May 24, 1887.

R.—Creasote,

Iodoform,

Benzoin pulv. aa gr. ¼.

Balsam tolu ℥ ¼.

for 1 sugar-coated pill.

Sig.—From 2 to 4 pills may be taken daily.

A NEW OPERATION FOR NASAL DEFORMITIES.—DR. ROE, of Rochester, thus describes an operation which he has employed successfully for nasal deformities.

The operation is performed as follows: We first deaden the sensibility of the interior of the end of the nose by cocaine (general anæsthesia being unnecessary) and then brightly illuminate this part.

If the tissue is to be removed from that portion where the mucous membrane is not too firmly adherent, the membrane should be dissected back, to be replaced after the operation.

The end of the nose is turned upward and backward, and held with a retractor by an assistant; then sufficient of the superfluous tissue is removed or dissected out to

allow the nose to conform to the shape that we desire. Great care must, however, be exercised not to remove too much tissue, and also not to cut through into the skin, lest we may have afterward a scar or a dent in the external surface of the nose.

In some cases no after-treatment is required, but in others it is advisable to mould a saddle or splint, as it were, to the top of the nose, so as to make it, while healing, assume the shape we wish to obtain.

In some instances the large and unsightly end of the nose is not due to an excessive tissue but to a malformation of the cartilages of the alæ, bulging outward with a corresponding concavity on the inside.

These noses can be very readily moulded into a handsome shape by cutting, with a small tenotomy knife, through these cartilages, in different places, sufficiently to destroy their elasticity. Then by inserting a silver or hard-rubber tube, of the proper size and shape, into the nostril, and conforming the saddle to the outside of the nose, we have it encased in an outside and inside splint that compels it to conform to the exact shape we desire.

While performing this operation and moulding the nose into shape, we must not neglect to preserve the nasal passages free and unobstructed.—*Medical Record*, June 4, 1887.

THE DISINFECTION OF SHIPS.—KOCH and GAFFKY have made experiments upon vessels in the German navy, from which they draw the following conclusions:

1. The keelroom of a vessel can be thoroughly disinfected, and also its contents, by corrosive sublimate.
2. Sufficient mercurial sublimate solution should be added to the bilge water to give a reaction when the copper test is made.
3. Bilge water and solution must be thoroughly mixed, which can best be done when the vessel is in harbor; a pump is requisite to accomplish this.
4. Such disinfection is complete in eighteen hours.
5. After the keelroom has been washed out with this mixture four times there is no danger of mercurial poisoning for the occupants of the vessel.
6. The material composing the vessel will not be impaired.
7. The pump used becomes so impregnated with mercury that it should not be used for other purposes; six months after such experiments neither the ship nor the pump used was found to be injured.—*Deutsche medicinische Wochenschrift*, May 5, 1887.

ANTISEPTIC FLUID USED IN THE PREPARATION OF GAUZE FOR THE AUSTRIAN ARMY.—The following formula is official in the preparation of dressings for the army:

R.—Hydrarg. bichlorat.	1 part.
Spirit. vini	100 "
Aquæ destillat.	125 "
Glycerini	50 "
Fuchsin	100 "

The coloring matter is to render the material easy of recognition.—*Wiener medizinische Presse*, No. 7.

THE HEREDITY OF TUBERCULOSIS.—RÜHLE, of Bonn, at the recent German Congress for Internal Medicine, read a paper of which the following is an abstract:

Koch's discovery of the bacillus has aided our diagnostic knowledge much more than our knowledge of the etiology of tubercle.

He raises the question, How by heredity is the tubercular nidus formed in the body?

The theory has been advanced that the tubercle bacillus in semen may affect the ovule, and that the germ, having lain dormant for some time, finally develops; or that the germ existing in the mother's blood may pass into the blood of the foetus.

The facts supporting this theory are very few.

The influence of contagion by the presence of dried sputum in the atmosphere is also overestimated, as is shown by the comparative immunity enjoyed by nurses in the wards of the phthisical. The communication of tubercular matter by direct contagion in the use of drinking cups, eating utensils, in kisses and handkerchiefs is, the writer thinks, much more potent in producing tuberculosis than any other mode of infection.

He would suggest, in view of these reasons, the term *family tuberculosis*, in its widest sense, as more accurate than hereditary tuberculosis.—*Deutsche medicinische Wochenschrift*, April 28, 1887.

ANÆSTHETIC EFFECTS OF POMADES.—TOPOROFF reports good results from the following methods: One drachm is used by inunction for 10 minutes over a surface $1\frac{1}{2}$ inches in diameter; at the expiration of this time the sensibility is tested by an electric current of known strength. A pomade of belladonna, 1 to 8, diminishes sensibility in a proportion represented by 0.6 after 10 minutes, and 1.1 after 30 minutes.

When lanoline was substituted for lard the effect was 0.55 to 0.99.

Chloroform pomade, 1 to 8, gave analogous effects; 0.66 and 0.62 with lanoline.

Pomades prepared with powdered drugs, as morphine hydrochlorate and potassium bromide, used for 30 minutes, increase sensibility for a certain time, which is less with lanoline than with lard. This, however, was observed in friction with simple fats.

The conclusion reached in these observations is that pomades made with lard are more active than those made with lanoline in lessening sensibility.—*Les Nouveaux Remèdes*, April 24, 1887.

SYRUP OF SUPERPHOSPHATE OF IRON AND OXYGEN.—DR. RICHARDSON, in *Asclepiad*, No. 14, gives the following formula:

Syrup of superphosphate of iron, solution of peroxide of hydrogen (ten-volume strength), pure glycerine—of each a fluidounce. Mix. To make a mixture of three ounces. Dose for an adult, from one to two fluidrachms two or three times a day in three ounces of water.

It can be made to combine with tincture of nuxvomica, with strychnine, and morphine, codeine, quinine, salicine, or any other agent which does not by its presence disturb and liberate the oxygen from the peroxide.

The syrup, as it is, is a most useful remedy in cases of a neurasthenic type, and especially when anæmia is also present. In an instance of pure anæmia treated with the syrup in combination with an occasional saline purgative, I have seen more rapid results toward recovery than from any ferruginous remedy I have hitherto employed under similar circumstances.

THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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SATURDAY, JUNE 18, 1887.

THE CASE OF THE CROWN PRINCE.

WE are in receipt of the following special cablegram from London, giving a concise clinical report of the case of the Crown Prince of Germany. It comes from a source which justifies absolute confidence in the accuracy of its statements.

"The Crown Prince began to suffer from catarrh and hoarseness last January, and was treated at that time by his physician-in-ordinary, Dr. Wegner, Director-general of Hospitals. A morbid growth on the left vocal cord was discovered by Professor Gerhardt in the beginning of March, and he applied the electro-cautery with but slight improvement resulting.

"On the occasion of the Emperor's birthday at the end of March, the Crown Prince was obliged to use his voice much. In the middle of April he was ordered to Ems, where he took the waters for a month and then returned to Berlin no better. The growth was at this time found to have increased in size; Professor von Bergmann was called in consultation, and subsequently Professor Tobold, of Berlin, and Dr. von Lauer, the Emperor's Physician-in-Ordinary and Chief of the Army Medical Department. They all agreed that the growth was cancer, but before doing an external operation they advised that Dr. Morell Mackenzie, of London, be summoned. Accordingly the Crown Prince telegraphed Queen Victoria requesting that Dr. Mackenzie be immediately dispatched to Berlin, and he arrived there on the afternoon of May 19th. He found that all the necessary

arrangements had been made to do an external operation at 7.30 o'clock of the next morning.

"Dr. Mackenzie, upon examination, found a small sessile growth of the size of a split bean, and he recommended that a portion of the tumor be removed by intralaryngeal operation for microscopic examination. Professor Gerhardt and Professor Tobold thought that this was impossible, but agreed that Dr. Mackenzie should attempt the operation the next morning. With the aid of forceps, Dr. Mackenzie succeeded in removing a portion of the growth, which, after microscopic examination, Professor Virchow reported consisted of inflammatory products.

"Dr. Mackenzie then left Berlin, but returned on June 7th, and performed a second intralaryngeal operation. Professor Virchow, after making an immense number of sections of the tissue removed, reported that the growth was a pachydermia verrucosa; that there were enlarged papillæ and epithelial cells, but no morbid elements in the areolar tissue.

"The Crown Prince arrived in England on Monday, and will stay at Norwood, under the entire charge of Dr. Mackenzie, until the middle of July, when he will go to Norreys Castle, the seat of the Duke of Bedford in the Isle of Wight."

The case of the Crown Prince of Germany cannot fail to interest citizens of the United States, as they recall some of the features of the history of the last illness of General Grant.

As we learn from our special cablegram, the Prince's disease manifested itself in catarrh and hoarseness in January; and two months later a warty growth was detected on the left vocal band. Treatment with electric cauterization was then instituted, and was attended with slight improvement; but excessive use of the voice in the festivities attending the Emperor's ninetieth birthday, in the latter part of March, made matters worse. A month's sojourn at Ems failed to be beneficial, and the Crown Prince returned in the middle of April with the growth larger than before. This clinical history of inflammatory hoarseness, probably augmenting dyspnoea, and the presence of a morbid growth which resisted the radical attack of the electric cautery, and increased rapidly in volume, despite rest of the part and other appropriate treatment for inflammatory conditions, naturally led the attendants, some of whom are men specially skilled in the diagnosis and treatment of intralaryngeal growths, to the opinion that the tumor was malignant, and to the conclusion that radical measures should be instituted for its extirpation. But it was felt that such an operation ought

not to be undertaken unless absolutely unavoidable, on account of the accompanying risk to life, and the probable great impairment of voice, even if successful.

Dr. Mackenzie was then summoned from London to the case, and reached Berlin in time for a consultation on May 20th. Upon examination, he found a small sessile growth, of the size of a split bean, attached to the posterior portion of the left vocal cord, on its inner and upper surface. He urged that the proposed operation should not be performed before a portion of the growth had been removed for microscopical examination, which had not been previously done, because its small size and sessile character was believed to render it impossible. Dr. Mackenzie, however, on the following morning succeeded in removing a small piece of the growth, which, upon microscopic examination by Professor Virchow, was found to be composed of inflammatory products; the epithelial cells were increased in size and number, and the growth was pronounced benign in character. We learn that Professor Virchow also stated that, as the portion removed included a complete section of the growth and the surface of the vocal cord beneath, as clearly demonstrated by the presence of some of the longitudinal elastic fibres of the latter structure, he considered that there was no reason to suppose that any remaining portion of the growth was of a cancerous nature.

Three weeks later Dr. Mackenzie performed a second operation, removing more of the morbid growth, which, after microscopic examination of many sections, has been pronounced by Professor Virchow a *pachydermia verrucosa*, a term usually applied to a certain variety of elephantiasis of the cutaneous integument, subcutaneous and deeper connective tissue; and, in this instance, to the condition of the mucous membrane. The sections showed enlarged papillæ and epithelial cells, but gave no evidence of morbid elements in the connective tissue.

The Crown Prince is now in England under the care of Dr. Mackenzie, whose experience in intralaryngeal procedures for the removal of growths is probably unequalled, and his manipulatory skill unexcelled. We understand that attempts will be made to get rid of this troublesome growth by intralaryngeal procedures to the exclusion of external operations. But this does not preclude the resort to severer measures if it should be proven that less serious procedures will not suffice. That the latter do succeed at times, even in malignant cases, there is sufficient evidence. Only lately, Fränkel, of Berlin, has reported an instance of undoubted malignant growth eradicated by repeated intralaryngeal attack. Other practitioners believe that they have been

equally successful in occasional instances; and, therefore, there is a fair hope for a favorable result in the present case, even if the growth were malignant.

CARDIAC EPILEPSY.

THE possibility of epileptiform convulsions coming on, due to lesions of the heart, has been recognized for a number of years, and interesting contributions have been made on the subject by such writers as Stokes, Thornton, and Blondeau, although the literature of the subject has not by any means been confined to the pen of these writers.

It will be remembered that the symptoms of cardiac epilepsy are chiefly characterized by a remarkable slowing of the pulse, so that the pulse-rate has been known to drop from the normal to not more than five beats a minute, and in a case reported by THORNTON (*Trans. Clin. Soc.*, London, vol. vii. p. 95) it was proved by the stethoscope that in the first stage of the attack the heart ceased to beat for many seconds. In some cases the heart's beat can be heard over the apex, but the patient becomes pulseless at the wrist. The respiratory movements are generally quickened at first and then become labored, and, perhaps, stertorous. The temperature of the body falls very decidedly, not only during, but before the attack, so that the complaint of feeling cold may be the only warning given of an approaching seizure, and this sensation of extreme cold occurring previous to an epileptic convulsion is, in the opinion of several writers, almost pathognomonic of cardiac epilepsy. The color of the face resembles the coloring of an ordinary idiopathic attack, being at the first pale, then red and cyanotic. The convulsive movements do not generally assert themselves during the period of unconsciousness, but they may do so, and biting of the tongue has been reported. In some instances the heart has been found after death in a state of fatty degeneration, and this, of course, points to a lack of sufficient blood-supply as being the cause of the attack. That the disease is not in every case due to organic failure of the heart, is proved by the fact that Charcot has seen such cases occur, in which after death no cardiac lesions were discoverable.

The question as to whether the nerve storm originates in the brain centres or is only secondarily produced by cardiac failure, is one which is solved with great difficulty; since it is perfectly possible to imagine that disordered nervous centres might produce not only an epileptic seizure, but also exert an influence over the heart, as, for example, by sending a powerful impulse along the pneumogastric nerves. Every physiologist knows, too, that cutting off the supply of blood from the brain by the partial ligation of the principal bloodvessels in the neck will

produce violent epileptiform convulsions, and it has also been proved that the convulsions arising in poisonings from the cardiac depressants, which are epileptiform in character, are due to this cause, namely, starvation of nervous centres, whereby their functions are perverted or set aside. The true cause of the epilepsies supposably due to cardiac failure, cannot be considered as decided in every case, but it would seem probable that such cases may arise from both the causes mentioned.

The theory of the production of attacks, owing to deficient blood-supply, has been greatly strengthened by the recent reports of several observers, notably the very recent one of Lemoine in the *Revue de Médecine*, of May 10, 1887, in which he reports five cases of cardiac epilepsy in which valvular disease of the heart existed, and where great amelioration of the symptoms or recovery occurred upon the use either singly or together of such cardiac stimulants as digitalis and caffeine.

While the cardiac muscle was under the influence of these drugs the epileptic seizures became much less frequent, and in some cases entirely disappeared, the only symptoms remaining being vertigo on certain movements, which, however, decreased as the condition of the heart improved. Such evidence as this is of considerable weight, as it strengthens very materially the belief that in many instances the convulsion is due to the cardiac failure.

TYROTOXICON AND CHOLERA INFANTUM.

THE advance of medicine from empiricism to scientific accuracy is very largely dependent upon a painstaking investigation of the causes of disease; and the study of foods and the diseases occasioned by their decompositions, is one of the most important fields for scientific work.

While many of the recent discoveries in medicine have been made by bacteriological research, PROF. VAUGHAN has by chemical analysis isolated a poisonous ptomaine in decomposed milk, and his writings upon this subject are among the most valuable recent contributions to practical medicine.

In his interesting paper in the present number of THE NEWS, Professor Vaughan describes the conditions under which this poisonous body is formed; cites clinical cases of infection produced by it, and demonstrates its causation of cholera infantum. The rules which he lays down for the care of milk, should receive the widest publicity, and their observance will go far toward the improvement of the character of our milk supply and the eradication of that scourge of infancy—cholera infantum. His deductions regarding the treatment of this disease are of great value, and especially timely at the approach of summer, and the results of his experiments, now in

progress, upon the value of different germicides which destroy tyrotoxin, when completed, cannot fail to prove of the greatest interest.

THE Rhode Island Medical Society held its seventy-sixth annual meeting in Providence, June 9th. Officers were elected as follows:

President.—Horace G. Miller, M.D.

Vice-Presidents.—Albert Potter, M.D., and John W. Mitchell, M.D.

Recording Secretary.—William R. White, M.D.

Corresponding Secretary.—Geo. D. Hersey, M.D.

Treasurer.—Charles H. Leonard, M.D.

The Trustees of the Fiske Prize Fund reported that the prize for the current year, of \$200 for the best essay on "Membranous Enteritis," was awarded to Dr. James B. Field, of Lowell, Mass. There was no award on the second subject. The subjects for the coming year are:

(1) "What Changes has Acceptance of the Germ Theory made in Measures for the Prevention and Treatment of Consumption."

(2) "Antiseptics in Medicine and Surgery; with original observations and experiments."

For the best essay on either of these themes a prize of \$200 is offered under the usual conditions.

The President, Dr. Horace G. Miller, delivered the annual address on the "Bacteriology of the Eye."

THE President of the Key West Board of Health, Dr. J. Y. Porter, reported by telegraph, under date of June 5th, that "Yellow fever had ceased to be sporadic, and absolute segregation of patients in hospital impossible, as friends conceal cases, and violently oppose removing sick; therefore, for these reasons, the board will declare the disease to be fast assuming an epidemic character." Twenty-two cases and eight deaths from yellow fever have been reported up to June 10th.

THE Kings County Medical Association held its third stated meeting at Brooklyn, June 7th. The paper of the evening, by Dr. J. D. Rushmore, treated of veratrum viride as a therapeutic agent. The use of large doses of veratrum in puerperal convulsions, sometimes spoken of as "the Brooklyn treatment," came up prominently in the discussion, a circular calling for the experience of the profession having been previously sent to every registered physician of the city, from which it appeared that by very many this drug is regarded as a "sheet-anchor" in ante-partum and post-partum convulsions.

DR. CARL FRIEDLANDER.—This well-known pathologist died at Meran on May 13th, after a long illness, aged forty. Although a victim of progressive

pulmonary tuberculosis, he did not abandon his scientific work to secure those climatic advantages whose value he strongly urged upon the profession. He was an early champion of the curability of phthisis, but in his enthusiasm for science devoted himself assiduously to his work. His researches upon the "Uterine Decidua," upon "Local Tuberculosis," and upon the "Proliferation of Epithelium in its Relations to Cancer," are well known.

His name is coupled, however, with the pneumococcus, whose discoverer he was; and his theory of the causation of pneumonia has received universal attention.

The *Fortschritte der Medicin*, published at Berlin twice monthly, was established by Dr. Friedländer, and is a monument to his memory. His last writing was in the discussion of the antiseptic properties of iodoform.

WE are happy to learn from the Austrian press that PROFESSOR BILLROTH'S convalescence is almost assured; it is confidently expected that after a summer of careful recuperation this distinguished surgeon will be able to resume his duties at his clinic in the autumn.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Thirty-eighth Annual Meeting, held at Chicago, June 7, 8, 9, and 10, 1887.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 7TH.—FIRST DAY.

The Thirty-eighth Annual Session of the American Medical Association was opened in Central Music Hall, at 11 A. M., by the Chairman of the Committee of Arrangements, Charles Gilman Smith, M.D., who called the assemblage to order, and invited the Rev. S. J. McPherson to offer prayer. Dr. Smith, with an allusion to the kind feelings of the citizens of Chicago toward physicians, because, although they took a great and active part in "labor" troubles, they never struck for eight hours work or higher wages, introduced Mayor John A. Roche, who, as the official representative of the city, delivered an address of welcome.

A call for the ex-Presidents of the Association to sit upon the platform was responded to by Drs. William Brodie, T. G. Richardson, J. M. Toner, and N. S. Davis.

The Chairman of the Committee of Arrangements announced the programme of the session and the various entertainments, and called the First Vice-President, P. H. Millard, M.D., of Stillwater, Minn., to the chair.

The PRESIDENT, E. H. GREGORY, M.D., of St. Louis, then delivered the annual

ADDRESS ON CELL-ANTAGONISM.

(See THE MEDICAL NEWS, June 11th, page 645.)

DR. A. N. BELL, of Brooklyn, stated that he had a report to present to the Association.

DR. WILLIAM B. ATKINSON, of Philadelphia, moved its reference to the Section on State Medicine.

DR. I. N. QUIMBY, of Jersey City, moved that the report be read to the Association, as it had appointed the committee. The latter motion was put and declared carried.

DR. BELL then read a report on

THE SANITATION OF EMIGRANT SHIPS.

The report discussed the United States laws bearing upon the subject, which require that every vessel carrying immigrant passengers exceeding fifty in number, shall be provided with a duly qualified and competent surgeon or medical practitioner; and dwelt on the common inefficiency of the service thus required, especially in preventing the importation of disease, and of the mentally unsound or imbecile who would be added to the defective and criminal classes of the country. Unsuccessful attempts to secure the amendment of these laws had been made through the Hon. John H. Reagan, Chairman of the House Committee of Commerce. Attention was called to the low status of the medical officers, and the exemption of cabin passengers from the obligations of the law. It was urged that on all vessels carrying more than six hundred passengers and crew, other than first-cabin and saloon passengers, should be provided also with a junior or assistant surgeon. These should not only give prompt medical attendance to passengers and seamen, but should also perform the duties of sanitary officers, making suggestions to the master of the vessel, when needful; seeing that all parts are kept in good sanitary condition, and making full report to the sanitary authorities of the port of the arrival of all cases of disease, insanity, or imbecility occurring during the voyage. The medical officers should have at command a competent apothecary or medical steward, and a sufficient supply of medicines.

On motion, the report was adopted, and copies thereof directed to be sent to the Secretary of the Treasury, and to both branches of the next Congress.

CRITICISING THE NEWSPAPERS.

DR. D. J. ROBERTS, of Nashville, Tenn., referring to an editorial in the morning issue of the *Chicago Times*, offered a series of resolutions repudiating the statements made as an unwarranted, uncalled-for, and unjust attack upon the regular medical profession of the United States and its representatives here assembled, and expressing deep regret at the insult that had been offered to the regular medical profession of Chicago, and, through the American Medical Association, to the regular medical profession throughout the world.

DR. EUGENE GRISSOM, of Raleigh, N. C., urged that the Association could not afford to prostitute its high mission by controversy; and moved to lay the resolutions on the table.

Several members attempted to get the floor to discuss the motion, but it was put and carried by a vote of 133 to 89.

DR. WILLIAM BRODIE, of Detroit, Mich., moved the adoption of the proposed amendment creating

A SECTION ON DERMATOLOGY AND SYPHILOGRAPHY, Carried.

DR. J. MCF. GASTON, of Atlanta, Ga., Chairman of the Committee to memorialize Congress on the investigation of inoculation for the prevention of yellow fever,

asked that the report of his committee be referred to the proper Section.

Referred to the Section on State Medicine.

WEDNESDAY, JUNE 8TH—SECOND DAY.

REPORT ON THE JOURNAL.

DR. J. M. TONER, of Washington, D. C., read the report of the Board of Trustees for the publication of the *Journal of the Association*; and, as part of that report, the Editor, Dr. N. S. Davis, read his annual report to the Board of Trustees. The weekly circulation is 4,387, of which 3,478 go to members of the Association, and the remainder to subscribers, exchanges, etc. During the year the membership of the Association has increased by 104, and the weekly circulation by 116. The total expense of publishing the *Journal* was \$15,920.96, of which \$2,758.95 were expended for editorial work. The amount received for subscriptions (from non-members), for advertising, and for reprints, was \$7,580.63; the remainder having been drawn from the treasury. It was further stated that Dr. Davis had consented to continue as editor of the *Journal* for another year.

On motion, the report was accepted and adopted.

DR. D. J. ROBERTS stated that the *Chicago Times* had made satisfactory acknowledgments as regards its assertions reflecting on the regular medical profession of Chicago and elsewhere; and begged leave to withdraw the resolutions he had introduced the previous day.

On motion, he was granted the desired permission.

DR. A. VON MANSFIELD, of Ashland, Neb., inquired how many members of the Association were receiving the *Journal* without paying for it.

DR. DAVIS could not tell, as the Treasurer received all dues for membership.

DR. N. S. DAVIS, Chairman, then read the

REPORT OF THE SPECIAL COMMITTEE ON CHANGES IN THE PLAN OF ORGANIZATION AND BY-LAWS OF THE ASSOCIATION.

This committee had been appointed under the following resolution, adopted at the last annual meeting: "Resolved, That a committee of nine members, including the President, President elect, and four Vice-Presidents elect, be appointed by the Chair to consider the various propositions looking to the amendment of the organic law of the Association, by the establishment of branches, or in any other way; said committee to report at the next annual meeting what measures of organization, if any, may be desirable."

The report had been drawn up by the chairman, and signed by all the members of the committee (seven) present at this meeting. The above resolution had been inspired by two considerations: *First*, the desirability of a more permanent and representative body to perform the duties now devolving upon the Committee on Nominations, and to consider other questions of importance referred to it by vote of the Association. *Second*, the desirability of increasing the paying permanent membership of the Association. The usually hasty, and often informal selection of members of the Nominating Committee, who are charged with the important duty of selecting the general officers of the Association, members of the Judicial Council, and of the Board of Trustees, besides determining upon the next place of

meeting, has given rise to much adverse criticism. A committee thus hastily appointed, compelled to discharge duties of the greatest importance with equal haste, and then ceasing to exist, could not fail to commit some errors and make some injudicious recommendations.

To secure a properly organized council, or standing business committee, and an increase of paying membership, it had been proposed to remodel our organization after the plan of the British Medical Association. But the conditions here are different. The 25,000 British practitioners are included in an area scarcely as great as that of our New England States. The British Medical Association has been in existence fifty-five years, and as yet includes but half of those who are eligible to its membership. And if some of its branches become so indifferent as to neglect the election of delegates to the Council to which they are entitled, as shown by reports at the last annual meeting, how would it be if the attempt should be made to require a select Council of this Association to meet four times a year, composed of delegates from branches in California, Maine, Minnesota, Texas, and Florida, at some central place as Washington Philadelphia, or Chicago, for the satisfactory consideration of all its important interests?

If the practical result of the experiment of the British Association, where all the circumstances have been most favorable, has been to put the entire control of the affairs of the Association in the hands of those members of the Council in London and in the few important cities affording most ready access thereto, it requires but a moment of serious reflection to see that the evils actually developed in the progress of the British Association, would be produced with far greater rapidity and intensity, if the same machinery and methods were adopted here.

It is believed that to accomplish the promotion of personal interest between neighboring members of the profession, the general development and diffusion of medical knowledge, both scientific and practical, and unity or concert of action on questions of education, medical legislation, and the sanitary surroundings of the people, the most desirable form of organization conceivable is but an ideal representation of the actual organization of the profession in this country as it now exists. After a careful study of the development of medical organizations at home and abroad, the Committee recommend no radical changes in the existing plan of organization; but urge the preservation of its essential principles and their present accurate adjustment to the needs of the situation, the correction of minor defects in practical application, and such changes in the by-laws as will facilitate the business and scientific interests of the body.

Under existing regulations "members by application" "simply have the right to receive the *Journal* on the same terms as the members." This affords no adequate motive for seeking such membership, since any one, whether a member or not, can obtain the *Journal* by the payment of five dollars a year. Therefore the following was recommended as an

AMENDMENT TO THE CONSTITUTION, SECTION SECOND.

"Members by application shall consist of such members of the State, County, and District Medical Societies

entitled to representation in the Association as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the President and Secretary of the Society of which they are members, and the amount of the annual membership fee, five dollars. They shall have their names upon the roll and have all the rights and privileges accorded to permanent members, and shall retain their membership on the same terms."

This would enable one or all the members of recognized State and local Societies to become *de facto* permanent members of the Association without the expense of attending a meeting.

From the fifth section of the Constitution it is proposed to strike out the first paragraph relating to the Nominating Committee, and in its place insert the following:

CREATING A GENERAL COMMITTEE OR COUNCIL.

"The General Committee or Council shall be composed of two members from each State and Territorial Medical Society entitled to representation by delegates in this Association, and from the Medical Departments of the United States Army, Navy, and Marine-Hospital Service. They shall be chosen by the members registered and present at each annual meeting, from each State, Territory, and from the Medical Corps of the U. S. Army, Navy, and Marine Hospital Service, acting separately on the third day of each annual meeting, each delegation reporting the names of the members chosen, to the permanent Secretary of the Association on the same day, that they may be announced by him at the opening of the morning session of the fourth day. At the first election each delegation shall choose two members of the General Committee, one of whom shall serve one year and the other two years; and at each annual election thereafter one member shall be chosen to serve for two years; thus making the term of office of members of the General Committee, two years. It shall be the duty of the General Committee, thus constituted, to organize by choosing annually, a Chairman and Secretary, and such sub-committees as may be found necessary to facilitate the work that may be assigned to it; to meet annually at the place and on the day preceding each annual meeting of this Association, and as often during that week as may be necessary; to nominate on the third day of each annual meeting all the general officers of the Association (none of whom shall be members of its own body), the members of the Committee of Arrangements, the Committee on Necrology, seven members of the Judicial Council, and three members of the Board of Trustees for Publication, for election by the Association; to recommend the place and time of holding the next annual meeting, and to consider and report upon all subjects that may be referred to it by vote of the Association, and particularly on all propositions involving the appropriation of money. The presence of one-third of the whole number of members elected to the General Committee shall constitute a quorum for the transaction of business. If at any annual meeting of the Association it shall be found at the close of the general meeting of the first day that a quorum of the General Committee is not present, it shall be the duty of the President and Permanent Secretary to fill vacancies in the Committee

temporarily, by selections from the lists of delegates registered as present from the States to which vacancies belong."

At the annual meeting of 1883, the duties of the Committee of Publication were transferred, by resolution, to the Board of Trustees for journalizing the transactions. It is proposed so to amend paragraph three of section five of the Constitution, as to make it conform to the practice of the last four years in this matter; and to define clearly the powers and duties of the Trustees.

In addition to the above, the Committee proposes certain

AMENDMENTS TO THE BY-LAWS.

Change Section II. of the By-Laws relating to the Duties of Chairmen of Sections, to read thus:

"The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements in methods of work as he may regard important, and present, on the first day of its annual meeting, the same to the Section over which he presides. The reading of such address not to occupy more than forty minutes."

Hitherto these addresses have been made before the general meetings of the Association, but the pressure of business and the multiplication of Sections render this no longer practicable. To take the place of these addresses in the general meeting, another By-Law, to be numbered XIV., is proposed as follows:

"The Association shall annually elect, on the nomination of the Nominating Committee (or the Standing General Committee), three members of the profession, eminent in some of its departments, to deliver addresses in the general session of the next ensuing annual meeting, one on some topic or topics relating to general medicine, another relating to general surgery, and the third relating to public medicine, including under that head, hygiene, sanitation, prophylaxis, education, and medical legislation; each of such addresses not to exceed one hour in its delivery."

DR. R. REYBURN, of Washington, D. C., moved that the report be received and the Committee discharged.

DR. R. G. JENNINGS, of Little Rock, Ark., moved that the report be received and adopted.

THE PRESIDENT then put the motion to accept and adopt the report, and declared it carried.

DR. A. W. ALVORD, of Michigan, asked in what shape did this leave the amendments to the Constitution.

THE PRESIDENT could not answer; but the Permanent Secretary said that Dr. Davis understood that they were adopted.

DR. I. N. QUIMBY, of Jersey City, thought that they must lie over for one year.

DR. E. GRISSOM, of North Carolina, held that they had been adopted.

The Chair decided the adoption of the report carried with it the adoption of the amendments.

DR. DAVIS said he would be glad if the amendments could now be adopted. It could legally be done by construing the resolution under which the committee was appointed, as a proposed amendment to the Constitution. In this way it had been before the Association for a year.

DR. A. B. PALMER, of Michigan, disagreed with the

construction put upon the resolution by Dr. Davis. It should lie over.

DR. J. B. GREEN, of Indiana, said that this committee was one of consideration. Its recommendations were not before this body until this morning.

Amid great confusion, Dr. A. N. Bell, of Brooklyn, got the floor, and moved that it was the sense of the Association that these amendments had been before the Association one year and duly considered. This motion was put and declared lost. Division was called for; and the Permanent Secretary counted the votes as the members stood up in their places, and announced 272 affirmative, 232 negative. It was decided that the motion was carried. This surprised the meeting and great confusion ensued. A delegate asked if all questions were to be decided that way. The yeas and nays were called for, but the call was ignored.

DR. GREEN moved to reconsider.

DR. GRISSOM moved to table the reconsideration, and this was declared carried.

The Permanent Secretary then announced the

NOMINATING COMMITTEE.

Alabama, W. C. Cross; Arkansas, D. E. Ewing; California, J. W. Robertson; Colorado, P. Drummond; Connecticut, W. H. Whitmore; District of Columbia, J. M. Toner; Florida, M. B. Phillips; Georgia, A. G. Whitehead; Illinois, E. P. Cook; Indiana, T. B. Harvey; Iowa, W. Watson; Kansas, W. L. Schenck; Kentucky, D. S. Reynolds; Louisiana, T. G. Richardson; Maine, D. E. Marston; Maryland, T. B. Evans; Massachusetts, E. W. Cushing; Michigan, W. Brodie; Minnesota, J. E. McGaughey; Mississippi, T. R. Trotter; Missouri, J. M. Allen; Nebraska, W. M. Knapp; North Carolina, Eugene Grissom; New Hampshire, J. W. Parsons; New Jersey, Lott Southard; New York, Darwin Colvin; Ohio, X. C. Scott; Pennsylvania, E. A. Wood; Rhode Island, Wm. J. Burge; South Carolina, T. Legare; Tennessee, J. B. Murfree; Texas, R. W. Park; Vermont, S. H. Griswold; Virginia, H. M. Nash; Wisconsin, J. K. Bartlett; U. S. Navy, D. Bloodgood; U. S. Marine Hospital Service, H. M. Goldsborough; Dakota, E. M. Dow; New Mexico, Russel Bailly.

A Committee of the American Pharmaceutical Association presented the following resolution which the Pharmaceutical Association had adopted at its last annual meeting.

"Resolved, That this Association solicits the aid and coöperation of the American Medical Association in promoting the prescribing by physicians, of official medicines only, or such preparations as have published formulas, in preference to others."

On motion the communication was received.

The Chairman of the Section on Surgery and Anatomy, Dr. H. H. Mudd, of St. Louis, being absent, his address was read by title.

DR. J. S. LYNCH then delivered his address as Chairman of the Section on Practice of Medicine.

The meeting then adjourned.

THURSDAY, JUNE 9TH.—THIRD DAY.

Dr. William Brodie, Chairman, presented the report of the Nominating Committee, recommending the following for

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. A. Y. P. Garnett, of Washington.

Vice-Presidents.—Drs. Duncan Eve, of Tennessee; Darwin Colvin, of New York; Charles J. O'Hagan, of North Carolina; A. Stedman, of Colorado.

Librarian.—Dr. C. H. Kleinschmidt, of Washington.

Treasurer.—Dr. R. J. Duglison, of Philadelphia.

Assistant Secretary.—Dr. J. S. Ransohoff, of Cincinnati, Ohio.

Trustees of Journal.—Drs. L. Connor, of Detroit, Mich.; E. O. Shakespeare, of Philadelphia; W. T. Briggs, of Nashville, Tenn.

Members of the Judicial Council.—Drs. J. Murphy, of Minnesota; J. M. Toner, of District of Columbia; J. K. Bartlett, of Wisconsin; A. B. Sloan, of Missouri; X. C. Scott, of Ohio; A. W. McClure, of Iowa; J. W. Stormont, of Kansas; and J. F. Hibberd, of Indiana.

Place of meeting, Cincinnati, Ohio; *Time,* the third Tuesday in May.

Chairman of the Committee of Arrangements.—Dr. W. W. Dawson, of Cincinnati.

DR. MILLARD moved that the report as read be received and adopted; and the Committee directed to report the names of three members to deliver the addresses before the general meetings of the next annual session, in accordance with the newly adopted by-laws. Carried.

The choice of the various Sections for officers for the ensuing year was then announced. The list of

CHAIRMEN OF SECTIONS:

Anatomy and Surgery.—Donald McLean, of Michigan.

Practice of Medicine.—A. B. Palmer, of Michigan.

State Medicine.—H. B. Baker, of Michigan.

Obstetrics and Diseases of Women.—Ely Van de Warker, of New York.

Oral and Dental Surgery.—J. Taft, of Ohio.

Ophthalmology, Otology, and Laryngology.—F. C. Hotz, of Illinois.

Diseases of Children.—F. E. Waxham, of Illinois.

Medical Jurisprudence.—E. Miller Reed, of Maryland.

Dermatology and Syphilography.—L. Duncan Bulkley, of New York.

DR. N. S. DAVIS called attention to the need for the members from each State getting together and selecting two members of the General Standing Committee, in accordance with the amendments to the Constitution adopted yesterday.

DR. W. T. BISHOP, of Pennsylvania, asked how this confusion had arisen as to whether the amendments affected the Constitution or the By-laws?

THE PRESIDENT said there appeared to be some dissatisfaction regarding this matter [A member—"A great deal of it"], and that he felt that he was the head and front of the offending. Now he desired, above all things, to do right, and wished to offer this written statement: "It is the opinion of the Chair that some mistakes were made in the decisions yesterday. Those portions relating to the adoption of the amendments to the Constitution clearly should lie over for one year, while the amendments to the By-laws may be adopted at once."

On motion, it was decided that the proposed amend-

ments to the Constitution be not adopted, but lie on the table, subject to ratification at the next annual meeting.

THE RUSH MONUMENT COMMITTEE,

through its Secretary, Dr. George H. Rohé, of Baltimore, read a report of progress. \$389 had been collected, of which \$140.08 had been expended for printing, etc. Referred to a committee of three: Drs. Grissom, Garcelon, and Palmer, to audit.

DR. ROHÉ read a letter from Dr. D. Hack Tuke, of London, inquiring if foreign contributions would be received.

DR. RANNEY, of Michigan, stated that at the recent meeting of the Michigan State Medical Society, \$100 had been appropriated for the monument fund.

In the absence of the Chairman, DR. JOHN MORRIS, of Baltimore, read the report of the special committee on

CREMATION,

closing with the following resolution:

Resolved That it is the judgment of the American Medical Association that the burial of all persons dying of zymotic diseases should be placed by law under the control of the health authorities, and in all such cases of disease chemical agents should be used by such authorities to bring about a rapid disintegration of the dead body.

This was referred to the Section on State Medicine for discussion.

DR. J. MCF. GASTON, of Georgia, offered a series of resolutions calling on the President of the United States to appoint two additional members of the Commission for the

INVESTIGATION OF YELLOW FEVER;

one to have a practical clinical acquaintance with the fever; the other qualified to communicate with the population of the localities in which it occurs.

DR. GEO. H. ROHÉ moved to lay the resolutions on the table. This was lost, and the resolutions adopted.

DR. F. M. JOHNSON, of Kansas City, Mo., Chairman of the Section on Obstetrics and Diseases of Women, delivered his address.

DR. GEO. H. ROHÉ, of Baltimore, Chairman of the Section, delivered an address on State Medicine.

DR. J. S. KNOX, of Chicago, Chairman of the Section on Diseases of Children, read an abstract of an address on *Diathesis and Disease in Early Life*.

THE REPORT OF THE TREASURER

was read. It showed for last year, total receipts, \$21,723.22; total disbursements, \$20,319.43; leaving balance in the treasury of \$1403.79.

THE REPORT OF THE LIBRARIAN

was read, showing the addition of 158 new titles to the Library during the year.

On motion of Dr. J. F. Hibberd, of Indiana, the report was received and \$10 appropriated for a copy of the *Index Medicus*.

A communication was received asking for an

APPROPRIATION FOR THE INTERNATIONAL MEDICAL CONGRESS.

DR. DAVIS moved the appropriation of \$500 for the purpose.

An amendment was offered making the sum \$1000.

It was stated that but few understood the need for additional funds; but \$12,000, including the appropriation made by Congress, were yet available; and unless at least \$40,000 or \$50,000 could be raised the Committee on Organization of the Congress would be most seriously hampered in its work. The amended motion was carried.

FRIDAY, JUNE 10TH.—FOURTH DAY.

The Nominating Committee appointed the following to deliver

THE ADDRESSES

in the general meetings next year:

On Medicine, R. Beverley Cole, of California.

Surgery, E. M. Moore, of New York.

State Medicine, J. S. Cabell, of Virginia.

It was recommended that a committee of three be appointed to notify these appointees, and to fill any vacancies that might occur in this list prior to the next annual meeting.

On motion, the report was adopted, and Drs. Toner, Grissom, and Colvin appointed as such committee.

DR. J. B. HAMILTON, of Washington, D. C., offered resolutions requesting the Senate and House of Representatives to cause such number of copies of the report of Dr. Sternberg, the Commissioner to investigate the

PREVENTION OF YELLOW FEVER BY INOCULATION,

printed as should be required by the medical profession of the country; and rescinding the resolutions adopted the day before asking for the appointment of additional Commissioners.

DR. ROHÉ believed that the members did not understand yesterday the true state of the case. The President had fully complied with the law as passed by Congress and could do no more. Dr. Sternberg was already in Brazil engaged in the investigation.

The previous question was then moved on Dr. Hamilton's resolutions, which were put and carried.

DR. J. S. MARSHALL, of Illinois, Chairman of the Section, delivered the Address on Oral and Dental Surgery.

DR. I. N. QUIMBY, of Jersey City, N. J., delivered the Address on Medical Jurisprudence.

DR. ALONZO GARCELON, of Maine, on behalf of the Auditing Committee reported the accounts of the Treasurer correct and properly vouched.

DR. N. S. DAVIS, as Chairman of the Standing Committee on Meteorological Conditions and their Relations to Disease, and on the Collective Investigation of Disease, reported that he had not been able to arrange the material in hand so as to form from it a report of value, but hoped to be able to attend to it in the future.

Accepted as a report of progress and the Committee continued.

DR. N. S. DAVIS then offered the following:

Resolved, That the regular graduates of such dental and oral schools and colleges as require of their students a standard of preliminary or general education and a term of professional study equal to the best class of the medical colleges of the country, and embrace in their curriculum all the fundamental branches of medicine, differing chiefly by substituting practical and clinical instruction in dental and oral medicine and surgery in place of practical and clinical instruction in general

medicine and surgery, be recognized as members of the regular profession of medicine, and eligible to membership in this Association on the same conditions and subject to the same regulations as other members.

He said a Section on Oral and Dental Surgery had been established in the Association, also in the proposed Ninth International Medical Congress, and some such action was required to draw the line indicating who could be properly admitted to these Sections. Of yet greater importance is the influence it will exert toward raising the standard in the schools of dentistry. The resolution was adopted.

DR. DAVIS offered the following also:

Resolved, That the Committee of Arrangements are hereby directed at each annual meeting of the Association so to arrange the programmes regarding entertainments and receptions that the evening of the third day be reserved for a regular annual dinner, under the following general regulations: The chief registration officer shall provide for each registration table a paper headed, "Annual Dinners of the American Medical Association," with two columns for names, one headed tickets without wines or liquors at a specified sum; the other, tickets with wines, etc., at a specified sum; that each member when registering can have the opportunity to take a ticket for the dinner if he desires it, and can be entirely free to enjoy the dinner, not only without using wines, but, also, without being required to assist in paying for that drunk by others; while those who desire the addition of wines will enjoy the same liberty. It shall be the duty of the Committee of Arrangements to select a proper place for the dinner, to ascertain the cost per plate on the plan already indicated, that the price paid for the tickets will pay the entire cost of the dinner, leaving no part to be paid either by the local profession or by the Treasurer of the Association. Each man having to pay for his dinner would effectually limit the expense. The plan had proven satisfactory in the British Medical Association.

DR. WILSON, of Boston, moved that an honorarium of \$300 be granted the Permanent Secretary.

DR. DAVIS stated that the money was needed for the *Journal*, and that the Permanent Secretary already had his expenses paid, including all expense connected with attendance on the meetings. He moved, as a substitute, that all such propositions to appropriate money be referred to the Trustees of the *Journal*. This substitute was carried.

On motion of Dr. A. B. Palmer, the Committee on Sanitary Police, Dr. A. N. Bell, Chairman, was continued.

DR. D. J. ROBERTS, of Tennessee, moved that a committee of five be appointed to report on the legal regulation of medical practice. As such a committee had already been appointed in the Section on State Medicine, the resolution was referred to that Section.

DR. J. M. TONER offered the following:

Resolved, That the Presidents of all State and Territorial Societies entitled to representation in this Association shall be *ex-officio* honorary Vice-Presidents of the Association, and entitled to seats upon the platform.

DR. JENNINGS, of Arkansas, thought there were enough on the platform now, that most of the business was transacted there already.

The resolution was laid upon the table.

On motion of Dr. E. A. Wood, of Pittsburg, Pa., a committee of three was appointed to investigate the subject of dietetics, and report at the next meeting. Dr. E. A. Wood, of Pittsburg; J. T. Whittaker, of Cincinnati; and F. Woodbury, of Philadelphia, were appointed.

A telegram was received from the President-elect, Dr. A. Y. P. Garnett, expressing his sense of the honor shown him, and regret at his inability to be present.

On motion of Dr. Wm. Brodie, the thanks of the Association were tendered the citizens of Chicago, the medical and secular press, and the railroads from which courtesies had been received.

DR. GREGORY, in a few appropriate remarks, closed the session.

In the afternoon many of the members took part in an excursion to the town of Pullman.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

*Second Annual Meeting, held at Washington,
June 2 and 3, 1887.*

THURSDAY, JUNE 2D.—AFTERNOON SESSION.

DR. HENRY HUN, of Albany, reported some

CASES OF SEWER-GAS POISONING.

He thought it probable that the following diseases may result from sewer-gas poisoning: vomiting and purging, separately or combined; general debility; fever; sore throat of a diphtheritic type; neuralgia; and perhaps, also, myelitis of the anterior horns. These conditions are frequently combined. Fever is frequently associated with the other symptoms. There is one group of symptoms which is almost always present, and that is, loss of appetite, extreme prostration, and pain in the head. When this occurs as a chronic condition we are justified in suspecting that the patient is suffering from sewer-gas poisoning. He reported in detail twenty-nine cases.

DR. W. W. JOHNSTON, of Washington, said that the theory of sewer-gas poisoning has gradually taken the place of malaria as the supposed cause of many obscure conditions, just as malaria superseded the hepatic origin of disease. The theory which attributes many of these conditions to the presence of sewer gas has not been proven. In an examination of a number of men working in the sewers of this city, it was found that they were more healthy than those who worked above ground, and the same observation has been made in other places.

DR. ISRAEL T. DANA, of Portland, Me., reported

A CASE OF ANEURISM OF THE ABDOMINAL AORTA

in a man of thirty. The most prominent symptom was a constant sensation of throbbing and pulsation centring in the epigastrium. Exacerbations occurred on slight exertion or on excitement, and also often on waking in the morning. More or less tenderness existed in same region, varying at times both in intensity and area. He was also subject to sensations of faintness and sinking, referable to the same region. There was a history of an accident in August, 1884, to the small of the back.

Exploration of the abdomen anteriorly revealed the existence of a small, equally expansile tumor just above the level of the umbilicus. There was a single impulse related to cardiac systole, with no backstroke. A distinct blowing sound was heard. On examination posteriorly, there was found a distinct independent centre of motion and sound. The sound was doubly sharper and more intense than that heard in the precordial region, and possessed of a well-marked "booming" quality. It was as if a miniature heart were there. Between this centre of sound and the lower left inter-scapular region where the normal heart sounds could be faintly heard, there intervened an area of silence.

The diagnosis was a small traumatic aneurism of the abdominal aorta just after its passage through the diaphragm; also some inflammation of the aortic coats, higher up.

The treatment consisted of: (1) absolute rest in bed for two months; (2) restricted diet of bread, meat, milk, and cocoa, the amount of which was limited; (3) iodide of potassium, twenty grains four times a day. Immediate improvement ensued within the first week, and he continued to gain in power till by the middle of November he could walk and ride about carefully.

On May 9, 1887, he began light work at the paper-mill. He had regained the twenty-five pounds of lost weight, ate well, slept well, and had but little palpitation, though excitement, physical or emotional, readily induced a slight return of some of the old sensations.

Physical examination at this date revealed anteriorly the existence of the aneurismal mass, perhaps a little diminished in size, while the blowing sound was scarcely audible. The impulse and expansion were markedly reduced. On examination posteriorly the independent centre of pulsation and double sound was found, but both motion and sound were greatly reduced in amount and the booming quality was gone.

The conclusion was that a practical cure had taken place, the sac having become largely filled with concentric layers of fibrine; and that reduction of the existing inflammation of aortic coats higher up had been effected.

The estimate of chances of final complete recovery was not considered encouraging. The circumstances of the patient were not favorable to such rest, recreation, and tranquillity of mind as might be desirable; and even with all external conditions at the best, there would yet be too many dangerous liabilities remaining, such as embolism, pyæmia, atheromatous degeneration, etc. The quick improvement under treatment is noticeable. The patient himself attached great value to the iodide of potassium, which he still takes; he feels so much better while taking it, that he is unwilling to leave it off.

EVENING SESSION.

DR. W. H. WELCH, of Baltimore, opened the discussion on

HEMORRHAGIC INFARCTION.

He referred to the different theories which had been advanced to explain the occurrence of hemorrhagic infarctions. These are: 1, the changes in the walls of the artery obstructed; 2, the increased pressure with which the blood is sent in from the collateral circulation; and 3, a regurgitant flow of blood from the veins. Numer-

ous experiments had been performed by the author, with the assistance of Dr. Mall, of Johns Hopkins University, to determine which of these theories was the correct one. Hemorrhagic infarctions were produced in the intestines of dogs, and the method of experimentation was given in detail. He presented, as the result of his studies, the following conclusions:

1. The blood which produces hemorrhagic infarctions comes chiefly, if not exclusively from the collateral vessels.

2. Hemorrhagic infarctions in the intestine cannot take place merely from a reflux of blood from the veins.

3. The blood-pressure is very low in the region where hemorrhagic infarction occurs, in consequence of occlusion of the main artery.

4. A certain degree of force of the collateral circulation is required to produce a hemorrhagic infarction.

5. No positive proof exists that a change in the vascular walls is essential to the production of a hemorrhagic infarction.

6. The hemorrhage occurs by diapedesis.

Where hemorrhagic infarction has taken place, the large and small veins are widely dilated with blood, and the arteries contain a smaller quantity of blood than normal. There is stasis in many of the veins and capillaries.

DR. WILLIAM OSLER, of Philadelphia, the conferee, referred to the *clinical aspects of the subject*. Among other cases coming under his observation, he reported the following: J. M., aged twenty, admitted to the Philadelphia Hospital, October 10, 1886. He had never had syphilis, and was a healthy-looking man. He presented a clear history of typhoid fever, with a sickness of six weeks, two years previously. His present illness began with diarrhoea one week before admission. For two days he had attacks of bleeding at the nose. There was temperature of 102°, with pain in the abdomen. There was no cardiac murmur, and examination of the lungs gave negative results. The splenic dulness was increased. By October 15th the temperature had reached 103°. There was almost constant delirium. There was some diarrhoea. Coldness of the feet appeared, and continued to increase in degree, and extended up the leg. The legs became livid, and no pulsation could be detected in the femoral and popliteal vessels. The patient died on the 17th. It was supposed that there was thrombosis of the iliac veins, with gangrene of the legs, which is one of the rare sequences of typhoid fever. At the autopsy it was found that the lower portion of the abdominal aorta and also the two iliac arteries were plugged with thrombi. There was general peritonitis. The right kidney presented a red-brown infarction. There were no ulcerations in the bowel; no endocarditis. The lungs were normal; there was an infarction in the spleen. During life the blood was examined for microbes, but none was found. After death microbes were found in the spleen.

Hemorrhagic infarction of the liver, under ordinary circumstances, is impossible. A. B., a hard drinker was admitted to the hospital September 27th. His illness began in the previous June with vomiting and swelling of the abdomen. The dropsy steadily increased. He died two days after admission. At the autopsy a large amount of fluid was found in the peritoneal cavity. There was nothing special found in the heart or lungs. The

liver was remarkably cirrhotic; through the right half of the right lobe there were scattered numerous reddish-brown areas. The walls of the portal vein were thickened, and a large brown thrombus occupied the upper portion of its trunk; the branches passing to the right lobe were filled with clots. The hepatic artery and vein were normal. In this case the hemorrhagic infarctions were in all probability due to the cirrhosis of the liver, which had caused more or less obstruction of the branches of the hepatic artery. The only other case of infarction of the liver which the speaker had been able to find was one reported by Recklinghausen.

In the intestine hemorrhagic infarctions are met with in two forms, one involving the mucosa, the other affecting the entire gut. The former not infrequently ends in ulcerative necrosis. The latter form of hemorrhagic infarction is not common in man. In the horse it is frequently seen resulting from thrombi formed from verminous aneurisms of the mesenteric and its branches. This is a common cause of the severe and fatal colic so frequently seen in these animals. In conclusion, the speaker referred to the fact that in the lung it is not uncommon to have a vessel blocked without the production of an infarction. An occasional cause of thrombotic infarction is local disease of the pulmonary artery. It sometimes results from the endarteritis induced by beginning tubercular processes.

DR. R. H. FITZ, of Boston, reported a case which, in his experience, is quite unique. It was that of an elderly man with globular thrombi in the left ventricle. Emboli were transferred to the splenic artery, but at first were not sufficient to occlude the vessel completely. The spleen became enlarged, and thrombi formed in the splenic veins, and from this point the thrombus extended into the superior mesenteric vein. As a consequence hemorrhagic infarction occurred in the intestine.

(To be continued.)

AMERICAN CLIMATOLOGICAL ASSOCIATION.

*Fourth Annual Meeting, held at Baltimore,
May 31 and June 1, 1887.*

EVENING SESSION.

DR. FRANK DONALDSON, JR., of Baltimore, read a paper on

THE CAUSES OF CARDIAC FAILURE IN HIGH ALTITUDES.

The important fact that there is often great dyspnea and sudden cardiac failure in going from low to high altitudes has not been sufficiently emphasized. Many patients are sent for general or special reasons to high altitudes, and are thereby done great injury, especially if they suffer from any form of functional or organic heart disease. From some experiments with the pneumatic cabinet, he had come to the conclusion that this treatment should not be employed in cases in which there is any valvular disease of the heart or fatty degeneration of its walls. Before being subjected to treatment in the cabinet, an examination of the heart should always be made. It has been asserted that the cause of the cardiac failure in ascending to high altitudes is want of oxygen. The speaker had performed certain experiments with reference to this point. At altitudes within ten thousand feet there is still sufficient

oxygen to supply the hæmoglobin. In ascending to high altitudes the pressure of the air within and without the lungs is the same, but on the heart the action is different. The pressure is removed from the outer surface of the heart while the internal blood pressure remains the same. There, consequently, must be dilatation of the heart walls. This, in the author's opinion, was the cause of the heart failure under these circumstances.

DR. F. C. SHATTUCK, of Boston, then reported

SOME HOSPITAL CASES OF PHTHISIS; MARKED IMPROVEMENT UNDER GENERAL TREATMENT, WITH SPECIAL REFERENCE TO ALIMENTATION.

The cases had been treated in the Good Samaritan Hospital, of Boston, which is devoted to the care of chronic disease. Many of the patients had been exposed to unfavorable hygienic surroundings. The treatment employed was devoted largely to improvement of the general condition. Search had been made for a specific treatment, and if the disease is of a parasitic nature, it is natural to suppose that such a treatment would be of avail. At present no such method of treatment is known. There are few individuals to whose lungs, at one time or another, the bacillus does not gain access. The fact that certain individuals are affected while others escape, forces us to believe that there is a predisposition to the disease. The treatment employed by the author had consisted in relieving symptoms, improving the digestion, and in the administration of as much food as the patient could take in the natural way. Artificial feeding had not been resorted to, but the patient was fed six or seven times a day. From two to ten raw eggs with milk were given daily to each patient. Alcoholic stimulants were not administered as a routine treatment, but were used only temporarily for special purposes. He had for several years been systematically cutting down the quantity of alcohol used in chronic cases, and had seen no reason to regret it. His experience had been that alcohol was not used with sufficient discrimination in chronic cases of disease. Beef, milk, eggs, and other nourishing articles are more expensive than alcohol, but if they can be consumed in sufficient quantity, they are more useful. In 1883, the amount expended per patient for alcoholic liquors had been \$2.70, while in 1886 it had been only 34 cents. The patients received no injury even if they were not benefited by this reduction. Eight cases of well-marked phthisis were reported in which a decided gain in weight and general improvement resulted from the employment of the plan of treatment above described. About sixty cases had been under treatment.

DR. BRUEN said that diet, climate, and suitable hygiene are the most important of the therapeutic measures under the control of the profession. It is possible by climatic and dietetic treatment so to change the nature of the tissues that they shall not be suitable culture media for the growth of the bacillus of tuberculosis. He referred more particularly to the use of the Bergeon method by the injection of sulphuretted hydrogen. To antagonize the specific cause of the disease, this method has been a failure, so far as his experience goes. Since February last he had had under treatment sixty-one cases by this method. Systematic examinations of the sputa have been made by Dr. E.

O. Shakespeare. There has been no apparent reduction in the number or change in the character of the bacillus. This method should be classed among the methods at our disposal for the treatment of this disease. The good effects in his hands had been reduction of temperature, reduction of expectoration, very often a complete suppression of bronchial catarrh, and relief of cough. This leads to improved digestion and enables the dietetic treatment to be carried out with great thoroughness. Forty-four of these cases showed improvement to a certain extent, the average gain in flesh being about five pounds. In one-half of the cases the temperature has been brought to the normal, while in the remainder, although the temperature has not been brought to normal, it has been reduced two or three degrees. In fifteen cases the results have been negative, but in no case did any harm follow the use of this plan of treatment. The improvement has been most marked where there was considerable catarrhal element. Those cases in which there has been more or less thickening of the lung, with the general symptoms well marked, wasting, loss of flesh and weight, without much rise of temperature, were not specially benefited by the injection of gas. He had the opportunity of making a post-mortem in one case which had been subjected to this treatment. Although the cavities in the lungs were unusually clean, he did not observe any evidences of cicatrization. With reference to the strength of the solution, he had not found strong solutions at all satisfactory. The best results have been obtained from a solution of five grains of sulphide of sodium with five grains of chloride of sodium in one and a half pints of water. He had never found it desirable to administer more than a gallon and a half of gas at one time, and insisted that the injection be made slowly and that one-half to three-quarters of an hour should be occupied in its administration. He had not derived as much satisfaction in the treatment of the various forms of phthisis referred to, from any method as from the injection of sulphuretted hydrogen. He had always tested the breath for the presence of sulphuretted hydrogen. He had negative results in at least eight out of every ten cases.

DR. S. S. COHEN, of Philadelphia, remarked that the experience of Dr. J. Solis Cohen and himself differed in some respects from that of Dr. Bruen. They have obtained the most decided benefit from strongly impregnated waters. The best results were obtained in those cases in which the patient had a decided taste of sulphuretted hydrogen which continued for two or three hours after injection. The best effect has been obtained in those cases in which suppuration is about beginning. Bergeon states that the treatment is directed especially to the suppurative process. In employing this measure, great attention must be paid to detail. In about fifty per cent. of the cases, the condition has been greatly ameliorated; in twenty-five per cent. there was slighter amelioration; while in the remaining twenty-five per cent. there was more or less benefit to certain symptoms. He had not seen a case in which no results were obtained.

DR. JAMES T. WHITTAKER, of Cincinnati, had for a month used sulphuretted hydrogen by inhalation, having previously employed it for a month by injection. He began the use of inhalation carefully, and finding it

well borne, had pursued the method more boldly. He puts the patients in the cabinet and allows them to have all the gas they will take. It has produced no unpleasant results in any case. The effects obtained have been about the same as those resulting from injection. In about one-third of the cases there were no results. He had searched the literature for records of bad results following the use of sulphuretted hydrogen, and had found only two in which a fatal result followed. It has been asserted that the good effect is due to the carbonic acid, but he was entirely incredulous as to the effect of this agent.

DR. CURTIN had followed the recommendation of Dr. H. C. Wood, that the sulphuretted hydrogen be taken by the stomach, using a saturated solution through which carbonic acid has been passed. He had tried this in four or five cases, and had had the same effects as from injection.

DR. MUSSER had used the gaseous injections to a certain extent, but his results have not been as marked as some which have been reported. His best results have been in two cases. One was a case of incipient phthisis in which the patient gained thirteen and a half pounds in four weeks. The second case had gained eight pounds in four weeks and had much improved in general condition. He attributed his want of good results in part to the want of enthusiasm on the part of those whose duty it was to carry out the details of the treatment.

DR. SHATTUCK had used the sulphuretted hydrogen gas, and in several patients it produced collapse in varying degrees, with weak pulse, nausea, vomiting, and headache. In several other cases, although the treatment was well tolerated, it produced no good effect. In one case of asthma with chronic bronchitis and emphysema, thirty four injections of the gas were given. While the treatment did not disturb the patient, it did no good. With the use of the gas was combined the administration of iodide of potassium and other remedies, and the patient recovered in about the same time as on a previous occasion when the latter remedies were given and no gas used.

DR. B. F. WESTBROOK, of Brooklyn, then read a paper on

THE LOCAL TREATMENT OF DISEASES OF THE RESPIRATORY ORGANS.

The methods of treatment which had been employed were the direct introduction of coarse sprays, the use of the Evans' inhaler, and the use of the pneumatic cabinet.

In cases of chronic bronchitis where the cough is severe, a spray of a solution of carbolic acid, fluid extract of hyoscyamus, or other sedative remedies, is employed. Where there is copious secretion astringents are called for, and of these tannic acid, iron salts, and fluid extract of *pinus canadensis* have been employed. The pneumatic cabinet has been used with marked success in the treatment of chronic bronchitis. The patient is confined in the cabinet under a diminished pressure, the sitting lasting from ten to fifteen minutes. This may be combined with the inhalation of the spray. If there is much emphysema the cabinet is not indicated. In using the cabinet in the treatment of chronic interstitial pneumonia and bronchiectasis, there is danger if the pressure is great of producing emphysema of those

portions of the lung still accessible to the air. The pressure should not exceed one-half an inch of mercury.

In the treatment of phthisis the best results are obtained in the early stages of the disease, or where the disease, although further advanced, is limited to a small portion of the lung. The use of sprays is beneficial only in so far as we desire to treat the coexistent bronchitis or cavities connected with bronchi of the second or third order. In incipient phthisis with very little bronchial catarrh, local treatment is probably of little service. These cases are best treated with compressed air. In a large proportion of the cases we may hope to render the disease latent. The expansion of the lung favors the expectoration of the contents of the smaller tubes and modifies the intrathoracic circulation. The sittings should be frequent—every day or every second day. Ten minutes is usually sufficiently long for the patient to remain in the cabinet. The pressure should gradually be increased up to one-half or three-fourths of an inch. If used cautiously, this is the best method for the local treatment of incipient phthisis. With the Evans' inhaler his results had also been satisfactory.

In the treatment of advanced cases of phthisis, the first effort must be to cure or diminish the bronchitis. The pneumatic treatment then comes into play. This gives better expansion, improves the circulation, and alters the action of the trophic nerves. In all cases internal medication has been combined with the local treatment. The more acute the disease the higher the fever, and the more sudden the onset the less can we expect to accomplish by treatment. In no case diagnosed as acute phthisis did treatment have the slightest effect.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

*Ninth Annual Congress,
held in New York, May 26, 27, and 28, 1887.*

(Specially reported for THE MEDICAL NEWS.)

DR. J. SOLIS COHEN opened the discussion on

THE TREATMENT OF LARYNGITIS IN PROFESSIONALS WHO ARE UNABLE TO REST.

He did not know that he was any better able to treat these cases without rest than are others. Sometimes a professional will consult him with hoarseness the result of acute laryngitis, and want to use his voice in a few hours. The best method to accomplish this that he had found has been the administration of a sharp emetic, and then let the patient rest until the time of the performance, sucking pieces of ice and keeping a cold compress to the neck. In chronic laryngitis he had found nothing of the same service as the use of a weak solution of sulphate of zinc, two grains to the ounce, used in a spray apparatus. In the intervals of the play the patient may inhale a little compound tincture of benzoin, if he finds that he is hoarse. Another remedy of considerable service is the use of a respiratory with turpentine, terebene, or eucalyptol, or something of that kind. He sometimes directs the patient to sprinkle a little turpentine on the floor of the bedroom. He was, however, not aware of any special method which is adapted to this class of individuals.

DR. T. A. DEBLOIS had had some experience with

these cases, and had endeavored to keep up the systematic use of sulphate of zinc, but had found that the hoarseness continued unless the voice is rested. He had occasionally to treat vocalists who could spare a few hours, and had found excellent results from the use of nitrate of silver, and the most disastrous results from the use of cocaine. There seems to be a certain amount of relaxation following the use of muriate of cocaine. He thought that it may be said that, in these cases, unless there is rest there is no cure.

DR. BEVERLY ROBINSON, of New York, stated that his experience with the class of cases under discussion would lead him to believe that, so far as the acute cases are concerned, there are milder measures than an emetic. He had found that under these circumstances the use of tablet triturates of chloride of ammonium repeated as often as once every fifteen minutes, is one of the most efficient methods of overcoming the difficulty. For local application he did not think that there is anything better than the carbolyzed spray. In the chronic form of laryngitis in vocalists he believes that we cannot obtain much information from the appearance of the mucous membrane. In these cases he has often found the membranes red, and this may continue after the trouble with the voice has disappeared. He believes that here the trouble is chiefly in the nervo-muscular apparatus. He has found the internal use of a good wine of cocoa, with the application of a faradic current to the neck, very useful. The faradism should be repeated once or twice a day.

DR. BOSWORTH remarked that he believed that there is no such disease as laryngitis, as that term is used to mean an inflammatory process. The seat of the disease is not in the larynx, but in the nasal passages. If cocaine is applied to the nasal mucous membrane, causing contraction of the bloodvessels, and followed by the use of chromic acid, thus eliminating the cold in the head, it will usually be found that the laryngitis has disappeared. Relaxation has been spoken of as following the application of cocaine. Although he has used the drug in many cases, he has seen this result in only two, and they were cases of hay-fever. His method of using cocaine is to suspend it in fluid cosmoline, and direct the patient to spray the nose and inhale it.

DR. SAJOUS had treated many cases of this trouble. The action of cocaine in laryngitis is pernicious. He has used it in a four and in a ten per cent. solution, and every time that he has done so, has had occasion to regret it. In cold in the head cocaine is useful, but it should not be used within four hours of the time when it is desired to use the voice. In the majority of the cases of chronic laryngitis the condition is due largely to fatigue. He has found that the use of cocaine and nux vomica internally, and the external use of a weak faradic current, are the best measures to employ.

DR. GLASGOW, in this class of cases, had devoted himself entirely to the larynx, and had not treated the nose. He employed applications of carbolyzed iodine to the larynx. This is a soothing application, and relieves congestion. It also acts as a stimulant, and enables the person to keep at his work, but it does not cure the condition.

DR. MORRIS J. ASCH, of New York, thought that the best way to treat the acute cases is that which we pursue

in other acute cases. The treatment suggested by Dr. Cohen, with the omission of the emetic, is useful. The employment of muriate of ammonium is useful. He gives it in solution in compound liquorice mixture which contains a little tartar emetic. The chronic cases are more difficult to treat, because the patients cannot quit work. He had found nothing equal the application of astringents. He used the spray in some cases, but more good is done by the use of the brush. The solution which he most frequently uses is one of the perchloride of iron, thirty to sixty grains to the ounce. Where a person has to use the voice in a few hours, a single application will put them in a good condition temporarily. Another point to be considered is that these individuals usually live irregular lives, drinking wine and eating heartily. There is, therefore, nearly always some hepatic trouble which requires attention. He did not believe that it is possible to put the larynx of a singer in perfect order as long as he has to work.

DR. HOOPER said that in these professionals there is sometimes an alteration in the quality of the voice, the result of over-exertion. Here there seems to be want of tension in one vocal cord. To relieve this he used electricity outside, with the internal use of aromatic spirits of ammonia, thirty to forty drops in half a glass of soda water.

DR. MACKENZIE thought that Dr. Bosworth was to a great extent right with reference to the dependence of laryngeal disease on nasal trouble. He thought that the vast majority of cases of laryngitis are associated with disease of the nasal passages, and upon the recognition of this fact depends the successful treatment of many cases of chronic laryngitis. While he admitted the existence of chronic primary laryngitis, he considered that the majority of cases are due to disease higher in the respiratory passages. He cautioned against the indiscriminate use of cocaine in diseases of the nose and throat. He would never use it just before a person was going to use the throat. The sensation which it produces in the larynx is only next to that of hanging. In the nose the effect is very pleasant, provided some of the solution does not trickle into the nose or larynx.

DR. WESTBROOK thought that while it is true that many of these singers and elocutionists suffer from strain and overwork, it is probable that in the majority of cases the seat of the whole trouble is in some derangement of the digestive apparatus, which predisposes to these affections. He thought, therefore, that an emetic or active purgative is indicated in many of these cases. After the emetic he gives small doses of the mineral acids frequently repeated, say one or two drops of dilute muriatic or nitric acid repeated every hour.

DR. CHARLES H. KNIGHT, of New York, then read a paper on

THE GALVANO-CAUTERY IN THE TREATMENT OF HYPERTROPHIED TONSILS.

He first referred to the objections to the cutting operation. The principal of these is the danger of hemorrhage. At times the tonsil is so deeply situated that it is not possible to get the tonsillotome over it. In other cases the patients positively object to the cutting operation. There are two methods of using the galvano-cautery; one is by puncture, and the other by the snare. The former is much the slower. Not more than three

punctures should be made at each sitting. The number of sittings required varies from five to ten. The latter method with the snare is much the quicker. The current should be used intermittently, and contraction should only be made during the passage of the current. He did not recommend this as a universal operation. In the majority of cases the cutting operation is easier and better. It should be used where there is danger of hemorrhage, and he was almost disposed to say that the galvano-cautery should be used in all cases in adults.

DR. SAJOUS had tried galvano-puncture, but it is quite tedious. He had modified the method by making a puncture, and then introducing chromic acid. He thought that the use of the snare is an excellent method.

DR. A. W. MAC COY, of Philadelphia, in the treatment of these cases, made a distinction in the methods employed. In the glandular enlargements he uses puncture, while in the interstitial hypertrophies he does not, for in these cases one is apt to get cicatrices which give considerable trouble. He was not satisfied that the puncture is any better than chromic acid fused on a probe and passed into a crypt.

DR. ROBINSON had long held that we know of no simple operation in surgery. There is nothing that is so unpleasant to him as to have to remove large tonsils from a small child. Although, as a rule, the hemorrhage is readily controlled, yet he always undertakes the operation with a good deal of reluctance. He was disposed to think that galvano-cautery is one of the best methods. We can thus remove many tonsils that give us a good deal of apprehension.

DR. RICE said that very little can be accomplished with the cautery in the large white hypertrophies in children. The cutting operation is what must be done in these cases. In adults, however, galvano-cautery is the most useful measure.

DR. INGALLS had used the cautery, but a certain amount of soreness had always followed its use. In children, in order to avoid the pain and nervous shock attending the cutting operation, he is in the habit of etherizing the patient and removing the tonsil with the snare.

DR. ALLEN said that while it may be proper to do the cutting operation in certain cases of hypertrophied tonsils which have been selected with great care, he thought that we err in making broad statements in regard to this operation. He believed that the number of cases in which serious hemorrhage occurs, is much larger than is supposed. All the disastrous cases are not reported. He was not willing to perform the operation until he had studied the case very carefully. Other measures should be first used, and the knife resorted to at the last.

DR. DELAVAN thought that where the operation of tonsillotomy is done with proper care, with suitable styptics at hand, there is not much danger from hemorrhage. At first there is a gush of blood, but in a few seconds this stops. He had found it very difficult to get authentic reports of cases in which serious hemorrhage followed this operation.

DR. ASCH said, with reference to this question of hemorrhage, that some time ago one of his assistants removed a small section of the tonsil. The next day there was serious bleeding, and it was found necessary

to keep up pressure on the tonsil for six hours before it was controlled. In another case that he knew of, it was found necessary to tie the common carotid artery.

DR. COHEN thought that a great deal of the trouble in tonsillotomy is due to the adhesion of the anterior fold of the palate to the tonsil. It has been his custom first to free the tonsil from the palate. In many cases the tonsil will then go down without any treatment whatever. He thought that the hemorrhage comes from the cutting of this fold, for as the vessels run in a vertical direction they are cut obliquely. He had never been able to use the cautery with the success of the reader of the paper. In his cases it has required from twenty to fifty sittings. One plan that he had followed is, after having penetrated the tonsil transversely, to try to cut his way out. Then to cut in the other way, and thus remove a portion of the tonsil. In this way, by making the application every day, or every other day, the tonsil is removed in the course of a month or six weeks.

DR. BEVERLY ROBINSON then presented a

NOTE ON A FREQUENT CAUSE OF NASAL HEMORRHAGE.

In his experience the ulcerations in atrophic rhinitis had been a most frequent cause of hemorrhage. He had found himself unable to detach the crusts from these ulcerations, either by the use of douches or sprays, so well as by the employment of ointments. In the course of two or three days the patient is able to blow out the crusts. He had found no ointment act so well in imbibing the crusts and producing changes in the ulcerations, as the ammoniated mercury ointment of the Pharmacopœia, of one-half or full strength, made up with vaseline. In applying plugs in the case of hemorrhage, he had found nothing so useful, especially in children, as Steele's flexible probe, recommended by Dr. J. Solis Cohen; he had found the so-called sheet sponge very useful as a plug. This may be cut in long strips, and pushed through the nose until the bleeding is controlled.

(To be concluded.)

CORRESPONDENCE.

A VISIT TO NAPLES.

The Public Hospital—Vesico-vaginal fistula—Symphyseotomy—Gynecological practice.

A correspondent writes us from Italy:

Circumstances have not been favorable for the investigation of medical matters here. I was very kindly received at Naples by Professor Ottavio Morisani, thanks to a letter of introduction from Philadelphia. I accompanied him once to the only public hospital of the city in which clinical instruction is given. It is an immense building, containing all departments, but I can write no particulars, as printed statistics were not furnished me as promised. The gynecological wards were contiguous on one side to the obstetrical, and on the other to the pathological department. The evils of this state of affairs are fully recognized; strenuous efforts are being made to effect a change, and hopes were expressed of early success.

I saw several cases of severe vesico-vaginal fistula which were being operated upon by Prof. Morisani, and

judging from the appearance of the population of Naples, as seen in the streets, it is a lesion likely to be met with here very frequently. There were also some fine specimens of fibroids removed by enucleation. When laparotomy is resorted to for these, hysterectomy is performed, the pedicle being secured by clamp, and I could not hear of the *étage* suture and closure of the abdomen.

Prof. Morisani was kind enough to show me the knife which he uses in performing symphyseotomy, and to describe the operation. The knife is short, strong, sharply sickle-curved, with probe-point and very blunt back. An incision about two inches long is made over the symphysis, the joint recognized, and the knife then being passed behind the bone, it is divided from within outward. The pains being efficient, nothing more is done; if they are not so the forceps are applied. Prof. Morisani has performed this operation ten times with two deaths. In such an operation the facts of each case are to be considered, and without them a mere enumeration of the operations with the results remains of no value whatever. Nor can I give you the pelvic diameters under which he would resort to this procedure, as his papers upon the subject, although promised, have not come to hand.

Prof. Morisani was about leaving town to go to an operation in Calabria, and he turned me over to his assistants, who were conducting the out-door gynecological clinic. There was a great similarity in applications to the cases. The position of the patient was on the back, and a bivalve speculum, with lateral blades, was used. I could not learn that Emmett's operation for laceration of the cervix was ever performed in Naples. I saw some cases of so pronounced "ectropion," as to lead me to inquire about it. I had difficulty, and I think other than that appertaining to language, in making myself understood about the operation. R.

NEWS ITEMS.

CONNECTICUT MEDICAL SOCIETY.—The sixty-ninth annual convention of the Connecticut Medical Society was held at the County Court House, Hartford, on Wednesday, and Thursday, May 25th and 26th. The following officers were elected for the ensuing year:

President.—Dr. Francis Bacon, of New Haven.

Vice President.—Dr. George L. Porter, of Bridgeport.

Secretary.—Dr. S. B. St. John, of Hartford.

Treasurer.—Dr. E. P. Swasey, of New Britain.

LEPROSY AT ST. MARTINSVILLE, LA.—The *New Orleans Medical and Surgical Journal* for June, 1887, gives the following account of the results of an investigation of cases rumored to be leprosy, ordered by the State Board of Health of Louisiana:

After examining a number of persons who were more or less healthy, the physicians visited in a body the residences of eight sick persons about whom rumor murmured loudest. One of these was a gentleman suffering with a number of rodent ulcers in the face, associated with a large epithelioma on the neck, and a second case was an aggravated form of acne indurata.

Upon the remaining six cases opinions differed somewhat, but it was the unanimous verdict that three should

be called *undoubted leprosy*, and a majority of the physicians considered the remaining three cases as *doubtful*.

Two other cases of leprosy (of the tubercular form), a son and a brother of two of these doubtful cases, are now under care at the Charity Hospital; thus making eight persons from St. Martinsville about whom suspicion is cast.

MUST AN OFFICER OBEY THE ORDERS OF THE SECRETARY OF WAR.—The case of Surgeon John S. Billings, which was a bone of contention between Secretary Endicott and Assistant Secretary Maynard while the latter was Second Controller, has been carried into the Court of Claims. This matter involves the power of the Secretary of War to issue an order requiring foreign travel except on purely military business. Dr. Billings was ordered to England in 1881 to attend the International Medical Convention in London. Before going to London Dr. Billings visited many of the important European cities in quest of information for the medical corps of the army. On his return home he claimed mileage for the entire distance travelled. The accounting officers disallowed the claim upon the ground that the Secretary of War had no authority to issue the order under which Dr. Billings travelled. The Secretary differed from the accounting officers, and asked that the case be reopened. The then Second Controller refused, and concluded his letter with a paragraph which gave some offence to Secretary Endicott, suggesting that if the Secretary was not sufficiently posted on the laws governing such cases it would be well for him to refer the matter to the courts for decision. The Secretary has concluded to follow this advice and has laid the papers in the case before the Court of Claims. There are several similar cases now on hand, and others are continually arising. The Secretary wishes the court to decide how far his authority over the movements of army officers extends.

MONEY VALUE OF LIFE.—The calculation of the money value of human life and the consideration of the money saved to a nation by sanitary science are a favorite line of study with Edwin Chadwick, the veteran English sanitarian. He is President of the Association of Public Sanitary Inspectors and, as such, recently read a paper on the financial value of sanitary science. He calculates upon evidence, which it is not necessary to reproduce, that the money charges upon the community arising from excessive sickness and mortality which is prevented by sound sanitation, amount to about 62,000,000 pounds.

He likens money expended for sanitary work to money voted by parliament for the maintenance of the army and navy and for the repair of defences, and says that we have an annual invasion of an enemy in the form of preventable disease, which every year fights and wins a battle against the community, and slays upward of 100,000 people beyond the present reduced death-rate, all of whom we know and have proved might have been saved by more efficient sanitation, and at a saving of double the annual cost of naval and military defences.

All this excessive loss of life and money is due to wastefulness and ignorance in legislation and administration. The only effective preventive will be the

superior economy of tested and corrected sanitary science. Executive functions are generally confided to persons inadequately furnished with the qualifications required, and incapable to fill the offices. Adequate salaries with a system of promotion and retirements, as may be found in the army, will keep the hospitals empty. All these officers should be centralized under one Minister of Health.—*Sanitary News*, June 4, 1887.

A RUSSIAN MEDICAL COMMISSION has recently been sent from St. Petersburg to investigate a disease called "Pendel's tumor," which has for several years attacked Russian soldiers near the Caspian Sea. It is believed to be caused by microbes.

DR. MORITZ SCHUPPERT, a well known and highly honored physician of New Orleans, died in that city on May 2, 1887.

PROFESSOR HYRTL.—The illustrious Vienna anatomist, Hyrtl, who has for some time been suffering from cataract, has had the right eye operated on by Prof. Fuchs, apparently with great success. The left eye is also affected, and will shortly have to be operated on. Prof. Hyrtl is seventy-five years of age.

HONORS TO PROFESSOR ESMARCH.—Emperor William has conferred upon Prof. Esmarch, the great surgeon, the rank of nobility. Prof. Esmarch, who married Princess Henrietta, of Schleswig-Holstein, has been ignored by the royal family. It is surmised that he owes his ennoblement to his skill as a surgeon.

GERMAN ASSOCIATION OF PUBLIC HEALTH.—The German Association of Public Health will convene in Vienna September 26th to October 28th, to meet with the International Hygienic and Demographic Congress. The latter will meet in the University building. All governments are requested to send delegates.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JUNE 11, 1887.

VAN REYPEN, W. R., *Surgeon*.—Ordered, June 8, for examination preliminary to promotion as Medical Inspector.

ROBINSON, SOMERSET, *Medical Inspector*.—Ordered, June 20, before a Retiring Board convened at Mare Island, Cal.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 7 TO JUNE 13, 1887.

BAXTER, COL. J. H., *Chief Military Purveyor*.—To proceed to New York City for the purpose of inspecting the Medical Purveying Depot at that place.—*S. O. 133, A. G. O.*, June, 10, 1887.

Par. 15, *S. O. 52, A. G. O.*, March 5, 1887, is so amended by Par. 9, *S. O. 133, A. G. O.*, June 10, 1887, as to direct that Major CHARLES H. ALDEN, *Surgeon*, be relieved from duty in Department of Dakota, about June 20, 1887, and he is granted leave of absence from the date when so relieved to include August 27, 1887.

FRYER, MAJOR B. E., *Surgeon*.—Granted sick leave for one month.—*S. O. 28, current series, Div. Pacific*, amended by *S. O. 20, Div. Pacific*, June 2, 1887.

FRYER, MAJOR B. E., *Surgeon*.—Found incapacitated for active service by an Army Retiring Board, and granted leave of absence until further orders on account of disability.—*S. O. 133, A. G. O.*, June 10, 1887.

TREMAINE, MAJOR W. S., *Surgeon*.—Sick leave still further extended two months on account of sickness.—*S. O. 129, A. G. O.*, June 6, 1887.